Conceptual Closure Plan

Rosemont Copper World Project
Pima County, Arizona
1720214024 | Rosemont Copper Company

Prepared for:

Rosemont Copper Company
5255 E. Williams Circle, Suite 1065, Tucson, AZ 85711 United States

1/7/2022

Conceptual Closure Plan

Rosemont Copper World Project
Project Location
1720214024 | Rosemont Copper Company

Prepared for:

Rosemont Copper Company

Prepared by:

Wood Environment & Infrastructure Solutions, Inc.

1/7/2022

Table of Contents

List of Tables

List of Figures

List of Appendices

List of Acronyms

A.A.C.	Arizona Administrative Code
ADEQ	Arizona Department of Environmental Quality
APP	Aquifer Protection Permit
A.R.S.	Arizona Revised Statute
AWQS	Arizona Water Quality Standards
BADCT	Best Available Demonstrated Control Technologies
BMP	Best Management Practices
EPA	Environmental Protection Agency
HLDE	Heap Leach Draindown Estimator
HLF	Heap Leach Facility
HLP	Heap Leach Pad
LCRS	Leak Collection and Removal System
MCL	Maximum Contaminant Level
O&M	Operations and Maintenance
PFCE	Process Fluid Cost Estimator
PFS	Pre-Feasibility Study
PLS	Process Leach Solution
POC	Points of Compliance
Rosemont	Rosemont Copper Company
SRCE	Standardized Reclamation Cost Estimator
SX/EW	Solvent Extraction and Electrowinning
TDS	Total Dissolved Solids
TSF	Tailings Storage Facility
US	United States
Wood	Wood Environment & Infrastructure Solutions, Inc.
WRF	Waste Rock Facility

1.0 Introduction

Rosemont Copper Company (Rosemont) is currently completing a Pre-Feasibility Study (PFS) for the proposed Rosemont Copper World Project (Project) located southeast of Sahuarita, Arizona, in Pima County. The PFS currently underway includes the PFS Level Design for Project facilities, including a heap leach facility, tailings storage facilities, waste rock facility, ponds, and ancillary facilities. The current planned mine life is 15 years.

This Conceptual Closure Plan (Plan) summarizes the closure and post-closure strategy and the closure cost estimate for the PFS. The closure strategy presents the closure objectives, design parameters, sequencing of closure operations, and post-closure monitoring and maintenance activities. The closure strategy has also been developed to support the Aquifer Protection Permit (APP) Application. This Plan forms the basis for a closure strategy for APP regulated facilities including the tailings storage facilities (TSFs), heap leach facility (HLF), ponds, waste rock facility (WRF) and pits, which will be submitted with an APP Application. The Plan will be modified as needed based on new data, testing results, and changes in operations over time.

1.1 Project Background

The proposed Project is located on private land with most Project facilities located on the west slope of the Santa Rita Mountains, approximately 12 miles southeast of Sahuarita, Arizona in Pima County. A general facility map of the Project is presented in Figure 1. The Project will consist of six open pits, a WRF, a HLF, two TSFs, ponds, and ancillary facilities. Figure 2 shows the post-closure reclaimed topography.

1.2 Scope

The closure strategy presents the design criteria and concepts to address the Project closure as it nears completion of an estimated 15-year mine life. The closure strategy was developed to meet the following objectives:

Closure Strategy Objectives:	Objectives are developed for surface water diversion, surface water management, long-term drain down management including infiltration control, and productive post-mining land use.
Closure Design:	Develop a conceptual design for surface water control including permanent diversions, erosion control, managing drain down, and revegetation. Additional items addressed include surface water diversion channels, surface water conveyance channels on the TSF, surface erosion control cover design and potential borrow sources.
Sequencing of Closure Operations:	Identify closure activities to be performed in the final years of activity, at closure, and post-operation.
Post-Closure Monitoring & Maintenance:	Develop a list of post-closure monitoring and closure maintenance items. This includes inspection frequency and identification of significant maintenance activities that could be required.

2.0 Project Description

The proposed Project will process both oxide and sulfide copper ore. Facilities associated copper recovery for oxide ore includes a Heap Leach Pad (HLP) and Solvent Extraction and Electrowinning (SX/EW) process.

For sulfide ore, copper recovery will be accomplished through a mill and flotation circuit, and a sulfide leach circuit followed by a SX/EW circuit. The Project will consist of six pits, two TSFs, one heap leach pad, waste rock storage facility, a processing facility, and ancillary facilities to support the operation.

The Project is located on private land and will have a 15-year mine life. Ore will be mined from six open pits. Mining will occur on both sides of the Santa Rita Mountains. Ultimately, the TSFs will store approximately 277 million tons of tailings and the HLF will hold approximately 104 million tons of oxide ore. To the extent practical, operations during the life of mine will take into account closure concepts to minimize the closure needs at the end of the mine life. This includes constructing and operating the TSF and HLF at the final closure slopes to minimize grading at closure and constructing permanent diversion channels to handle the post-closure design storm event (1,000-year, 24-hour event). This will prevent the need for further diversion channel construction at closure. Interim or temporary channels are designed for the 100-year, 24-hour event. To minimize stormwater run-on to the facilities, diversion channels will divert most surface water runoff from upstream drainage basins around the TSFs, HLF and other Project facilities.

As part of the stormwater management concept developed for the Project, stormwater run-on that is not diverted by the diversion channels, and precipitation that falls directly on the Project facilities during operations, will generally be stored within the TSF impoundments and stormwater ponds located within the Project boundary. At closure, stormwater will be routed off reclaimed facilities to downgradient drainages.

3.0 Closure Strategy Objectives

The goal of this closure strategy is to provide an overall approach for closing the Project while allowing existing discharge control structures to function in order to minimize discharge and meet alert levels and aquifer quality limits at the applicable points of compliance (POC). Consistent with the Arizona Mining Best Available Demonstrated Control Technologies (BADCT) Guidance Manual Aquifer Protection Program, published by the Arizona Department of Environmental Quality (ADEQ) (ADEQ, 2004), engineering techniques and concept objectives utilized in the closure strategy prepared for the Project include:

- Managing surface water run-on and runoff
- Recontouring of the facilities, as needed, to reduce ponding and promote evaporation of direct precipitation or runoff to diversion channels
- Compacting the surface and/or placing a cover on the top and slopes of the TSF and HLP to minimize infiltration from precipitation, promote water off, and prevent erosion
- Providing slope protection for erosion control
- Revegetating for evapotranspiration and erosion control
- Continuing operation and maintenance of seepage collection and evaporation systems

The objectives of this Plan are to meet the criteria for Prescriptive BADCT closure and post-closure of process facilities, including non-stormwater ponds (stormwater ponds for temporary storage of process solution), process solution ponds, HLF, and TSFs. The reclamation and closure objectives for other facilities not specifically addressed by the Prescriptive BADCT are to ensure long-term physical stability and allow for the identified post-closure land use.

The Prescriptive BADCT closure and post-closure requirements are described in the following sections as provided in the Arizona BADCT Manual (ADEQ, 2004).

3.1 Non-Stormwater Ponds

The measures of the implemented closure strategy were designed to contain and control discharges from non-stormwater ponds, after closure (also termed stormwater ponds in this Plan). Per the definition from the BADCT Manual, "non-storm water ponds include ponds that receive seepage from tailing

wood.

RCC-CW004779

impoundments, waste rock dump and/or process areas where potential pollutant constituents in the seepage have concentrations that are relatively low (e.g., compared to process solutions) but have the potential to exceed Arizona Surface Water Quality Standards. Non-stormwater ponds also include secondary containment structures and overflow ponds that contain process solution for short periods of time due to process upsets or rainfall events." Ponds associated with the Rosemont Copper World Project that meet the definition of non-storm water ponds include the North and South HLF Stormwater Ponds and the Process Area Stormwater Pond. Per the Arizona BADCT prescriptive measures for closure, the following criteria are provided for closure of non-storm water ponds (excavated and bermed).

Prescriptive Criteria:

1. Closure/Post-Closure Plan to be submitted to ADEQ for approval.
2. The following are example elements of a closure strategy (Arizona Revised Statute [A.R.S.] 94-243.A.8) for a Prescriptive BADCT Non-Storm Water Pond:

- Excavated Ponds:
  - Removal and appropriate disposal of solid residue on the geomembrane
  - Geomembrane inspection for evidence of holes, tears or defective seams that could have leaked
  - Where there is no evidence of leakage, the geomembrane can be folded in place and buried or removed for appropriate disposal elsewhere
  - Where geomembrane inspection reveals potential leaks, inspect soil for visual signs of impact. ADEQ may require soil sampling and analysis to determine the potential for threat to groundwater quality
  - Conduct soil remediation if required to prevent groundwater impact
  - After ADEQ approves the residual soil conditions, the geomembrane can be buried in the pond or be removed for appropriate disposal elsewhere, and the pond excavation backfilled
  - The filled area will be graded to minimize infiltration
  - Capping of the pond area with a low permeability cover may also be part of a closure strategy if it will achieve further discharge reduction to maintain compliance with Arizona Aquifer Water Quality Standards (AWQS) at the POC locations
- Bermed Ponds:
  - Same closure procedures as excavated ponds, except geomembranes will not be buried in place and must be appropriately disposed of elsewhere

3.2 Process Solution Ponds

The measures of the implemented closure strategy were designed to contain and control discharges from process solution ponds after closure. Process Solution Ponds include pregnant or barren solution ponds and reclaim ponds. Overflow ponds that continually contain process solution as a normal function of facility operations shall be considered process solution ponds. Per the Arizona BADCT prescriptive measures for closure, the following criteria are provided for closure of process solution ponds (excavated and bermed).

Prescriptive Criteria:

1. Closure/Post-Closure Plan to be submitted to ADEQ for approval.
2. The following are example elements of a closure strategy (A.R.S. 49-243.A.8) for a Prescriptive BADCT Process Solution Pond:

- Excavated Ponds:

wood.

RCC-CW004780

- Removal and appropriate disposal of solid residue on the upper geomembrane
- Inspection of the lower geomembrane and underlying soils for any visual signs of liner damage, liner defects, or impact by leakage through the lower liner. ADEQ may require soil sampling and analysis to determine the potential for threat to groundwater quality
- Conduct soil remediation if required to prevent groundwater impact
- After the residual soil conditions are approved by ADEQ, the geomembranes can be buried or be removed for appropriate disposal elsewhere and the pond excavation backfilled
- The filled area will be graded to minimize infiltration
- Capping of the pond area with a low permeability cover may also be part of a closure strategy if it will achieve further discharge reduction to maintain compliance with AWQS at the POC wells

- Bermed Ponds:
  - Same closure procedures as for excavated ponds, except geomembranes will not be buried in place and must be appropriately disposed of elsewhere

3.3 Heap Leach Pad

The measures of the implemented closure strategy will be designed to prevent, contain, or control discharges from the HLF after closure.

Prescriptive Criteria:

1. Closure/Post-Closure Plan to be submitted to ADEQ for approval. Closure Plan to eliminate, to the greatest extent practicable, any reasonable probability of further discharges and of exceeding AWQS at the POC locations.
2. Neutralization or rinsing of all spent ore or waste residues. Although neutralization or rinsing is listed as a prescriptive closure method, ADEQ allows for other closure methods that “eliminates, to the extent practicable, any reasonable probability of further discharges…”. As a result of excessive water use for neutralization or rinsing, other methods for closure that require less water use are considered.
3. Elimination of free liquids. Elimination of free liquids is typically accomplished through evaporation or water treatment.
4. Stabilization of heap materials.
5. Recontouring of the heap as necessary to eliminate ponding.

3.4 Tailings Storage Facility

The measures of the implemented closure strategy were designed to prevent, contain, or control discharges from the TSFs after closure. Tailings impoundments receive waste material from the flotation circuit that contains a mixture of sands and finely ground material in the form of a thickened slurry.

Prescriptive Criteria:

1. Closure/Post-Closure Plan submitted to ADEQ for approval. Closure Plan to eliminate, to the greatest extent practicable, any reasonable probability of future discharges and of exceeding AWQS at the POC wells.
2. Tailings impoundment site will be stabilized and allowed to dry to permit safe access by heavy equipment. The surface will then be recontoured to eliminate ponding and limit infiltration utilizing an appropriately designed cover system.

3. Stormwater runoff on the slopes will be controlled with mid-slope channels with rip rap that will convey runoff to vertical rip-rapped channels down the slope, which flow to existing diversion channels that release non-contact water to natural drainages or release the flow directly into a natural drainage.
4. Permanent closure for contained solutions can be by either physical removal or containment and evaporation.

3.5 Waste Rock Facility (WRF)

The BADCT Manual does not provide prescriptive measures for closure of waste rock facilities. The WRF is considered an APP regulated facility for this Project. Closure strategies for the Rosemont Copper World Project WRF are described in Section 4.5.

3.6 Pits

The BADCT Manual does not provide prescriptive measures for closure of pits. Most of the pits are considered APP regulated facilities for this Project. Closure strategies for the Rosemont Copper World Project pits are described in Section 4.6.

4.0 Closure Design

Objectives achieved for the closure include surface water management by promoting stormwater runoff across the Project site, minimizing infiltration into the TSFs and HLP, grading of surfaces to promote surface water runoff, limiting erosion, providing physical stability of the site, use of a natural soil cover on the top and slopes of the TSF and HLP, and promoting the establishment of a sustainable ecosystem to match with the post-management land use of wildlife habitat and ranching.

The reclamation and closure approach proposed for the Project has several key concepts that provide the basis for this Plan throughout the facility's operational life. These concepts include:

- Designing facilities with reclamation and closure in mind, such as the construction of facilities at the ultimate reclaimed slope angles to avoid regrading after operations have ceased
- Minimizing downstream hydrologic disturbances
- Preparing a comprehensive drainage plan that prioritizes the diversion of non-contact stormwater to the extent practical
- Managing operations to minimize environmental impacts
- Salvaging soil resources
- Reclaiming the facilities to meet post-mining land uses

An important aspect of closure begins during the construction of the facilities through salvage of growth media/soils prior to construction of the mine facilities. This salvaged material will be used as growth media cover for the HLP and TSF-1 and TSF-2 during reclamation and closure. Depending on the depth of the soils, up to two feet will be salvaged within the footprints of the TSFs, HLP and processing plant area. Temporary storage areas for growth media may include within facility footprints prior to construction of the facility (i.e., TSF-2) and / or on portions of the WRF that are no longer active. TSF-2 would likely be the initial site for growth media storage as construction of this facility is not planned until about year 10.

4.1 Non-Stormwater Ponds

Non-stormwater ponds include ponds that receive seepage from TSFs and/or process areas where potential pollutant constituents in the seepage have concentrations that are relatively low (e.g., compared to process solutions) but may exceed Arizona AWQS. Non-stormwater ponds also can function as secondary containment structures and overflow ponds that contain process solution for short periods of time due to process upsets or rainfall events. Non-stormwater ponds for the Project include the two HLF stormwater ponds and the process stormwater pond.

The non-stormwater ponds are single lined and generally constructed using cut and fill balanced methods. Methods for closure of non-stormwater ponds will be in accordance with ADEQ BADCT Prescriptive requirements.

Because these ponds will be partially excavated, Rosemont will use the prescriptive closure method for excavated ponds as described in Section 3.1 except that the liners would be removed and disposed of properly.

4.2 Process Ponds

Process ponds include ponds that are designed to contain process solution either from the plant site or from the HLF or TSFs. Process ponds for the Project include the PLS Pond, Raffinate Pond, Primary Settling Pond, and Reclaim Pond.

The process ponds are double-lined with a Leak Collection and Removal System (LCRS) between the primary and secondary liners. Construction of these ponds will be similar to the non-stormwater ponds, using cut and fill construction methods. Methods for closure of process ponds will be in accordance with ADEQ BADCT Prescriptive requirements.

Because these ponds will be partially excavated, Rosemont will use the prescriptive closure method for excavated ponds as described in Section 3.2 except that the liners would be removed and disposed of properly.

4.3 Heap Leach Pad (HLP)

Closure and reclamation of the HLP will focus on managing both draindown and long-term stormwater management. Closure methods will be in accordance with ADEQ BADCT Prescriptive requirements for heap leach facilities prior to closure. Accordingly, the requirements of Arizona Administrative Code (A.A.C) R18-9-A209(B) will be met. General closure concepts for the HLP are as follows:

- HLP slopes will be graded following completion of leaching to flatten slopes across the inter-slope benches.
- Manage draindown solution through active evaporation
- Long-term management of draindown through evaporation cells converted from existing PLS Pond and one HLF Stormwater Pond
- Grade the surface to promote runoff and minimize infiltration
- Place and grade cover material – 18 inches on top and slopes of the HLF spent leach material
- Create horizontal and vertical channels along HLP slopes to control runoff and erosion on the slopes
- Revegetation
- Post-closure monitoring at POC wells

4.3.1 Draindown Management

The solution entrained within the heap at closure, and precipitation that infiltrates into the heap after closure, will be considered draindown solution (contact water) and managed using the PLS Pond. Immediately following closure, draindown from the heap leach pad (HLP) will be processed to recover copper resources. Once it is no longer cost-effective to recover copper from the solution, draindown will be actively managed through enhanced evaporation techniques to reduce the volume of solution in the heap. Active evaporation may include using devices such as snowmakers on the heap to enhance solution evaporation of solution. Active management of solution will continue until the volume of draindown can be passively managed by an evaporation cell.

Using the Heap Leach Draindown Estimator (HLDE) approved by the Nevada Division of Environmental Protection and the Bureau of Land Management, passive evaporation would be started approximately eight years after the start of active evaporation. The conversion of the PLS Pond and one HLF Stormwater Pond would occur at this time to evaporation cells for managing long-term draindown. Appendix A provides the HLDE model output for the HLF draindown. The PLS Pond will be used during active evaporation to store draindown solution prior to pumping to the evaporators on the top of the HLP. Figure 5 provides a schematic of a typical evaporation cell.

4.3.2 Surface Water Management

Surface water control features developed in this strategy include provisions for managing the offsite, run-on stormwater flows as well as stormwater generated from precipitation falling directly onto the HLF areas. Primary features of the closure strategy include diversions up-gradient of the HLP, surface grading, stormwater and erosion control, and cover design.

Three stormwater diversion channels will be constructed prior to the HLP construction. One diversion channel will be on the north side of HLP Cell 3 (Figure 6), which will divert stormwater from a portion of the WRF and area between the WRF and HLP. Stormwater from this diversion channel will be conveyed to the natural drainage to the north of the HLP. Two stormwater diversion channels will be located on the south side of Cell 3 and east side of Cell 2 as shown on Figure 6. These diversion channels will convey flow to an upstream stormwater collection gallery. Water in the upstream stormwater collection gallery will be conveyed under the HLP in a solid 36-inch pipe to a downstream stormwater collection gallery. Water in the downstream stormwater collection gallery will be allowed to infiltrate into the alluvium or overflow into the natural drainage.

Prior to final closure of the HLP, precipitation that falls directly on the HLP will be allowed to infiltrate and will be managed as indicated in Section 4.2.1. Water management during final closure activity and post-closure are described in Section 4.2.3, with additional detail provided in the Site Water Management Plan (Wood, 2022).

4.3.3 Infiltration and Erosion Control

Following the completion of active evaporation (estimated approximately eight years in duration), the top surface of the HLP will be graded to minimize ponding and promote runoff. The top surface of the HLP will be graded to a minimum of one percent grade toward the slopes of the facility.

Once grading is completed, an 18-inch soil cover will be placed on the spent heap top and side slopes. This 18-inch soil cover will provide for water retention and will have the evapotranspiration characteristics necessary to limit net infiltration and support native vegetation growth. This closure strategy utilizes a vegetated cover with a site-specific native seed mix.

The slopes of the heap leach pad will also be graded to flatten the slope by eliminating the benches. Both horizontal and vertical rip rap lined channels will be placed along and down the HLP slopes to collect runoff and convey the runoff into diversion channels and to a natural drainage. These channels will minimize erosion of the cover material. The channels will be sized to handle runoff from the HLP from a 1,000-year, 24-hour storm event. The channels will be protected using a geofabric below riprap or other erosion protection on the sides and bottom of the channel.

4.4 Tailings Storage Facilities (TSFs)

Closure and reclamation of the TSFs will focus on managing both draindown from the tailings and long-term stormwater management. Closure methods will be in accordance with ADEQ BADCT Prescriptive requirements for TSFs.

4.4.1 Draindown Management

During active operations and deposition of tailings, solution that seeps through the tailings material (draindown) will be collected in a seepage collection system consisting of a network of seepage collection pipes at the base of the facility and seepage collection trenches located at topographic low points on the downstream edge of the TSFs. Solution collected in the seepage collection pipes convey seepage to the seepage collection trenches. The seepage collection trenches will collect seepage that bypasses the seepage collection piping. Seepage collected by the seepage collection system is pumped to the Primary Settling Pond for reuse in the sulfide processing circuit.

Solution not captured by the seepage collection system would infiltrate into the bedrock below the TSFs. Based on seepage modelling of the seepage collection system, approximately 98% of seepage from the TSF will be capture and reused in the process circuit. This system of draindown management will continue into closure, with the goal to reduce the volume of managed solutions through evaporation.

The solution entrained within the TSFs at closure, and precipitation that infiltrates into the tailings after closure, will be managed as draindown (contact water). At the end of operations, the draindown (seepage) collected in the seepage collection system will continue to be collected and pumped to the Primary Settling Pond. The early goal of closure for the TSFs will be to reduce the volume of solution within the tailings as much as possible. This will be accomplished through enhanced evaporation techniques. Enhanced evaporation may include using devices such as snowmakers on top of the TSFs to enhance solution evaporation. Active management of solution will continue until the volume of draindown can be managed passively. Passive management would be through the use of sulfate-reducing treatment cells converted from the existing seepage collection trenches or in newly constructed cells.

Geochemical analysis of tailings leachate (Piteau, 2022A) indicates sulfate and total dissolved solids (TDS) will exceed the Environmental Protection Agency (EPA) Maximum Contaminant Level (MCL) in the tailings seepage. To allow for passive treatment and infiltration, the seepage collection trenches will be converted to sulfate-reducing treatment cells or new cells will be constructed that would treat the minimal flow from each TSF cell. The HLDE was used to estimate draindown from the TSF during closure. The HLDE is a model developed jointly by the Nevada Division of Environmental Protection, the Bureau of Land Management and the mining industry in Nevada. This model was specifically developed to estimate draindown from heap leach facilities but has also been used for similar modeling with tailing storage facilities.

Based on the HLDE models (Appendix B), conversion of the seepage collection trenches (or newly constructed cells) to sulfate-reducing treatment cells at TSF-1 would occur about 30 years after the start of active evaporation. Conversion for TSF-2 would occur after approximately seven years after start of the active evaporation.

Passive treatment for the reduction of sulfate has been used primarily for treating acid mine drainage that has low pH and high metal contents. The seepage from the TSFs is expected to have elevated sulfate, but heavy metals are anticipated to be below EPA MCLs. Rosemont would conduct bench-scale and pilot-scale testing during operations to design this long-term seepage management approach that would reduce sulfate and TDS levels to the point where treated seepage could be infiltrated into the ground. A typical passive treatment cell for sulfate reduction creates an anaerobic environment where sulfate-reducing bacteria convert sulfate to sulfide ions and bicarbonate. The dissolved sulfide ion precipitates metals as sulfides. Creating the necessary anaerobic conditions involves limiting oxygen into the treatment cell, a sulfate source (draindown from TSF), maintaining a 5.0 pH (maintained by bicarbonate reaction and limestone source), and providing organic matter.

The pilot-scale testing will ultimately be used to refine the system to provide maximum sulfate reduction. If necessary, the existing trenches will be expanded, or new cells constructed, to accommodate the flow and allow sufficient retention time.

Figure 3 provides a schematic of a potential sulfate-reducing treatment cell. Once the seepage has been passively treated, the treated seepage would either be allowed to infiltrate in the alluvium or discharged on the surface based in accordance with Arizona water discharge requirements/permits.

The following provides a list of the reclamation procedures for closure of the TSFs.

- TSF embankment slopes constructed to final slope configuration
- Allow draindown to occur and drying of top surface
- Manage draindown solution through active evaporation
- Long-term management of draindown within sulfate-reducing treatment cells converted from existing seepage collection trenches
- Once the top surface is stable enough for equipment, grade the surface to promote runoff and minimize infiltration
- Place and grade cover material – 24 inches on embankment slopes and 18 inches on top of the tailings
- Revegetation
- Post-closure monitoring at POC wells

Surface water control features developed in this strategy include provisions for managing the offsite, run-on stormwater flows and stormwater generated from precipitation falling directly onto the Project site. Primary features of the closure strategy include diversions up-gradient of the facilities, surface grading, onsite stormwater management through stormwater and erosion control, and cover design.

4.4.2 Stormwater Management

One of the closure strategy objectives is to manage stormwater run-on and runoff to reduce net infiltration into the tailings and minimize erosion. Diversion channels will be constructed during operations to divert water around the TSFs and prevent erosion of the TSF embankments. Details of the stormwater management system are presented in Site-Wide Water Management Plan for the Project (Wood, 2022).

Stormwater from upgradient that cannot be diverted, will be conveyed under TSF-1 and the HLP with the use of upgradient and downgradient stormwater collection galleries. These galleries and associated piping will be designed to convey runoff from the 1,000-year, 24-hour storm event. The sizing of pipes will vary based on the runoff area upgradient of each stormwater collection gallery.

4.4.3 Impoundment Runoff Control

The closure design concept for the tailings impoundment is to place a growth media cover on the tailings top and embankment, routing of stormwater runoff from the covered tailings and convey that stormwater to a diversion channel at the toe of the TSF embankment.

As active draindown management occurs, the tailings surface will begin to dry and consolidate. Once the top surface has dried and consolidated sufficiently to allow equipment to safely operate on the surface, minor grading would be completed to promote runoff toward the decant pond area. A growth media cover will be placed in areas outside of the active evaporation areas following completion of grading. The growth media will be hauled from the growth media stockpile. Approximately 18 inches of growth media will be placed on the tailings surface and 24 inches on the tailings embankment. This depth of growth media will provide storage capacity for precipitation, thus providing moisture for vegetation growth. This will aid in limiting infiltration into the tailings material. Horizontal and vertical rip rap lined channels will be placed along and down the TSF embankment slopes to convey the runoff to the embankment toe and into the perimeter diversion channel and eventually to a natural drainage. These channels will minimize erosion of the cover material on the embankment slopes.

During grading of the TSF surface, downchute channels will be constructed from the decant pool, through a breach in the TSF embankment and down the embankment slope. These downchute channels will convey stormwater runoff from the TSF surface to a diversion channel that will convey the runoff to a natural drainage. The downchutes have been designed to manage the runoff from a 1,000-year, 24-hour storm event. Table 1 provides the channel size and riprap size for TSF-1 and TSF-2 downchute channels. Figure 4 shows a typical downchute section and details.

Table 1: Downchute Design Parameters

	Bottom Width (ft)	Side Slope (H:V)	Flow Depth Top (ft)	Rip Rap size Top (in)	Flow Depth Chute (ft)	Rip Rap Size Chute (in) – 2 Layers
TSF1-Cell 1	7	3:1	0.93	2.3	0.56	37.1
TSF1-Cell 2	7	3:1	0.84	2.1	0.5	32.7
TSF1-Cell 3	7	3:1	0.7	1.7	0.41	26.4
TSF2-Cell 1	7	3:1	0.6	1.5	0.37	22.1
TSF2-Cell 2	7	3:1	0.7	1.7	0.43	26.0

The downchutes will be constructed from the decant pool through a notch in the TSF embankment and down the slope of the embankment. The channel will be protected using a geofabric below riprap or other erosion protection on the sides and bottom of the channel. The area of the embankment notch will also be protected with rip rap or other erosion protection. Larger riprap will be placed at the discharge point where the downchute flows into the perimeter diversion channel. Ultimately, the channel along the embankment toe will connect into an existing natural drainage.

4.4.4 Infiltration and Erosion Control

The objective of TSF cover design is to provide a durable and functional cover that limits erosion while limiting, to the greatest extent practicable, net percolation into the underlying tailings while re-establishing a functional ecosystem. This closure strategy addresses the cover of the impoundment surface as well as the embankment slopes.

This closure strategy utilizes a vegetated cover with a site-specific native seed mix that represents native vegetation. The 18-inch soil cover on the tailings top surface and 24-inch soil cover on the TSF embankment slopes is anticipated to provide the water retention and evapotranspiration characteristics necessary to limit net infiltration and support native vegetation growth. Downchutes will also be constructed to route stormwater off the facility from the top reclaimed surface. Additional horizontal and vertical channels will be constructed on the slopes to manage stormwater runoff on the slopes and convey the runoff to a natural drainage.

The top surface of the tailings will be maintained with a gentle grade of 0.5 percent during tailings deposition toward the proposed decant pool. This gentle grade mitigates runoff velocities as well as the erosive forces. This grade of 0.5 percent is utilized in the design throughout the majority of the surface to not only minimize surface erosion but to also promote the sustainability of the vegetation cover. A portion of the decant pool and downchute will be graded slightly steeper (1.0 to 2.0 percent) based on final operational grades. Additional erosion protection in the decant pool area will be added as needed.

4.5 Waste Rock Facility (WRF)

Closure of the WRF will primarily consist of grading to promote stormwater runoff to the slopes and benches and managing sediment in the runoff through the use of sediment basins. The sediment basins constructed during operations will continue to serve the same purpose in closure.

Testing of the waste rock has shown that the majority of waste rock is acid neutralizing, thus low pH water with elevated metals is not anticipated. The waste rock will be revegetated directly without the placement of a soil cover.

4.6 Pits

Three (Heavy Weight, Copper World, and Broadtop Butte) of the six pits will be backfilled with waste rock during operations and will not require further closure efforts except those listed for the waste rock. The other three pits (Elgin, Peach and Rosemont) will be left open following cessation of mining. Closure activities associated with these pits will include limiting access via fencing and / or placing a berm at access points. Additional information related to the water quality and water flow into the pits is provided in the Rosemont Copper World Hydrogeologic Impact Assessment (Piteau, 2022b).

4.7 Available Borrow Source

Based on the footprints of the proposed facilities, and assuming two feet of salvageable growth media, approximately 5 million cubic yards of growth media will be stockpiled. Based on 18 inches of cover on the HLP and the surface of the tailings, and 24 inches on the TSF facility slopes, approximately 5 million cubic yards of growth media will be needed for closure of the two TSFs and the HLP.

Borrow available for closure of the TSFs and the HLP will be salvaged growth media stockpiled during initial construction of the TSFs and HLP. The potential location of the growth media stockpile will be in the TSF-2 footprint during years 1 through 10. During Year 10, when construction of TSF-2 begins, some or all the growth media may be relocated to either the WRF, completed portions of TSF-1 or a portion of the HLF until cessation of operations and initiation of reclamation and closure activities.

5.0 Sequencing of Closure Operations

The closure strategy design considers efficient production and tailings deposition throughout the life of the TSFs, the tailings surfaces near the end of production requiring limited excavation and contouring, operation of the HLF for the first 9 years of the mine operation, and TSF slopes constructed to the final overall slope to avoid grading post-operations. Addressing the sequencing of closure operations, the strategy has four phases to meet the final closure objectives:

Phase 1 – Closure Activities During Operation

Phase 2 – Closure Activities During the Final Years of Operation

Phase 3 – Post-Closure Activities

Phase 4 – Post-Closure Monitoring and Maintenance

5.1 Phase 1 – Closure Activities During Operation

During operations, the TSF embankments will be constructed to the final overall slope. This will eliminate the need to grade the slopes following cessation of operations. The heap leach pad will require grading of the slopes to flatten the slopes by removing the benches. Diversion channels will be sized and constructed for post-closure use, thus eliminating the need for resizing the diversion channels. Diversion channels that will remain following closure will be originally sized and constructed to handle a 1,000-year, 24-hour event.

5.2 Phase 2 – Closure Activities During the Final Years of Operation

Near the final years of operation for each TSF cell, tailings deposition will be managed to create a pool location to facilitate closure of the facility. The pool location for each TSF cell will be optimal for development of a drainage channel to convey runoff from the reclaimed TSF surface into a diversion channel at the toe of the TSF embankment. The diversion channel will then convey runoff to an existing natural drainage.

The placement of the final cover would begin In areas that are sufficiently dry, meet the final grade with no additional tailings deposition anticipated and are outside of areas where active evaporation will occur,. These areas must be sufficiently dry to support low ground pressure equipment to place the cover material. The cover material can also be placed on the slopes of the TSFs once the embankment is at its final elevation.

Other closure activities that may take place during the latter years of operation include the following:

- Active evaporation of solution from the HLP draindown
- Placing growth media on the HLP slopes
- Ripping and seeding portions of the WRF
- Reclamation of roads that are no longer needed for operations

5.3 Phase 3 – Post-Closure Activities

5.3.1 Water Management

During this phase, draindown from the TSFs will be managed through active evaporation until the volume of draindown can be managed through sulfate-reducing treatment cells and ultimately infiltrated into the alluvium. The transition from active evaporation to passive treatment will occur after approximately 30 years for the TSF-1 and after approximately seven years for TSF-2. The existing seepage collection trenches will either be converted to sulfate-reducing treatment cells or new treatment cells will be constructed.

Draindown from the HLP will have begun during operations after cessation of active leaching. By the end of mining and processing at the Rosemont Copper World Project, draindown from the HLP will likely be transitioned from active evaporation to passive evaporation. The PLS Pond and HLF North Stormwater Pond will be converted to evaporation cells for long-term management of draindown.

5.3.2 Embankment Slopes Closure

The surfaces of the TSF embankments are anticipated to be stable for placement of the growth media immediately upon achieving the ultimate height. The HLP slopes will require grading at cessation of the HLP operational life to reduce slope angles. As such, some portions of the slopes may be covered during the final years of operation, with the remainder of the facilities being covered with growth media following cessation of operations and active evaporation. Areas outside of the active evaporation areas can be covered with growth media following final grading. Stormwaters channels on the slopes of the TSF and HLP will be constructed during this Phase.

5.3.3 Impoundment Surface Closure

A key issue with closure of the TSF impoundment surfaces is the anticipated settlement due to the saturated nature of the fined grained tailings stored within the impoundments. Settlement magnitude and rate will depend on the depth of tailings and tailings characteristics, including particle size gradation and degree of saturation. Settlements of 2 feet or more are anticipated within the impoundment, with saturated conditions existing in the interior of the impoundments for decades after tailings deposition has ceased and draindown continues. Uneven settling is anticipated with greater settlement occurring in areas with higher deposition depths due to the native ground slope.

Settlement of the embankment area for the discharge channel notch and side slope channels should be minimal. The placement of cover soils can begin in areas outside of the active evaporation areas once the upper portion of the tailings surface has dried sufficiently enough to support haul and spreading equipment. Localized ground stabilization methods along haul routes, such as geogrids, may be required. Once sufficient settling of the surface has occurred, the long-term drainage channels from the individual TSF cell ponding areas and embankment slope stormwater control channels will be constructed.

5.3.4 Cover Vegetation

Disturbed areas of the Project will be seeded with an approved site-specific native seed mix. Drill seeding will be the primary method of revegetation, including mulch application. Hydroseeding with appropriate mulches or tackifiers may be utilized as well in areas inaccessible to drill seeding equipment. Vegetation establishment will be one of the primary factors in minimizing erosion and development of a productive post-mining land use.

5.4 Phase 4 – Post-Closure Monitoring and Maintenance

An inspection and maintenance program will be initiated following the closure activities at the site and will be performed for a minimum of five years after closure activities are completed. The inspection and maintenance program will include semiannual inspections and inspections after significant rain events to identify erosion issues and evaluate the performance of the drainage control surface features and facility cover systems. Maintenance will be performed as required based on the inspections to correct noted deficiencies. Additional monitoring may include sampling and testing of stormwater runoff per the Rosemont's Stormwater Permit.

The groundwater quality monitoring program will also be continued following cessation of mining operations. The groundwater quality monitoring program will include the following activities:

1. Groundwater monitoring will be conducted at the POC locations approved by ADEQ. Proposed POC well locations are shown in Figure 6. All the POCs will be groundwater wells with the screened portion in the bedrock aquifer. For post-closure monitoring, quarterly sampling will be conducted for three years following reclamation activity. Annual sampling will then be conducted five years beyond the time when seepage from the TSFs is managed through the sulfate-reducing treatment cells. Therefore, POC monitoring is estimated to be completed 35 years after the cessation of mining.
2. If compliance issues are identified during the post-closure monitoring period, more frequent monitoring will be conducted based on coordination with ADEQ to determine if the compliance issue is an anomaly or is a trend. Based on the additional monitoring results, Rosemont will work with ADEQ to determine corrective actions.

6.0 Closure and Post-Closure Cost Estimate

An estimated closure cost has been prepared for the Rosemont Copper World Project to reflect the closure and post-closure strategies presented in this Plan. The closure strategy encompasses the reclamation of the tailings impoundments, HLP, ponds, drainage diversions and process fluid management associated with the Project. The cost estimate for closure and post-closure of the Rosemont Copper World Project APP regulated facilities is approximately US$91.7 million. Details of the cost estimate development and basis of cost estimates are presented in the following sections and in Appendix C, which includes the Standardized Reclamation Cost Estimator (SRCE) model and Process Fluid Cost Estimator (PFCE) model.

6.1 Closure Cost Estimate

Table 2 presents a summary of the estimated closure costs for the APP regulated facilities associated with the Project. The closure cost estimate provides details of the construction activities, quantities, unit of measure (units), unit rates, and total cost for each construction activity. The closure activities and quantities were developed based on the strategy discussed herein.

The estimated closure cost is approximately US$91.7 million. The basis of this cost estimate is discussed in the following sections.

Table 2: Summary of Closure Costs

Facility	Labor	Equipment	Materials	Total
Process Ponds	$84,590	$ 195,578	$	$280,168
Heap Leach	$549,724	$1,364,406	$5,850	$1,919980
Tailings Storage Facilities	$3,448,938	$9,278,150	$	$12,727,088
Drainage	$1,234,744	$279,749	$623,303	$2.137.796
Monitoring	$1,348,376	$1,161,534	$167,810	$2,677,720
Solid Waste Disposal				$50,235
Process Fluid Management	$28,199,233	$16,880,189	$4,257,125	$49,336,547
Construction Management	$882,488	$825,237	$19,879	$1,727,604
Mob/Demob	$201,254			$201,254
Indirect Costs*				$20,620,343
Total	**$35,949,347**	**$29,984,843**	**$5,073,967**	**$91,678,735**

* Engineering/Design/Construction, Contingency, Insurance, Performance Bond, Contractor Profit, Contract Administration

6.1.1 Unit Rate Development

The unit rates and cost calculations for closure activities were from the SRCE and the Process Fluid Cost Estimator (PFCE), which were developed to provide standardized methods for reclamation and closure activities. The SRCE provides the costs and calculations for physical reclamation of a site and the PFCE provides costs for addressing fluid management from the heap leach and from the TSFs. In addition to these cost models, the HLDE was also used to estimate the timeframe needed to address process fluid management after cessation of operations. This model uses material properties data and other estimated/assumed values to determine the length of time needed to actively reduce process solution to a point where long-term passive evaporation of draindown solution can take place.

The TSF HLDE, HLF HLDE, SRCE and PFCE models, including the inputs, are provided in Appendix A, Appendix B, Appendix C, and Appendix D, respectively. Many of the unit costs used in the models are from

RSMeans equipment designations and Caterpillar equipment model designations, which is similar to other methods used to calculate closure costs.

Cost estimate line items are provided which include columns for labor, equipment, and materials. Material take-off quantities were totaled and applied to each closure line item. The contractor crew size was applied to each bid item based on equipment operating efficiently for a 10-hour workday.

The cover material source for the TSFs and HLP will be from the growth media stockpile, which will either be located on the TSF-2 area or on the western portion of the WRF. The growth media will be salvaged from the TSFs, HLP and process area footprints during construction/pre-construction.

6.1.2 Other Costs

Construction cost estimates include direct and indirect costs to account for specific items that are not included in the line-item unit rates and are applicable to the third-party contractor. The cost estimate incorporates the following direct and indirect costs:

- Engineering, Design and Construction Plan (4%)
- Contingency (4%)
- Insurance (1.5% of labor)
- Performance Bond (3% of operations and maintenance (O&M) costs)
- Contractor Profit (10% of O&M costs)
- Contract Administration (6%)

6.2 Summary of Closure and Reclamation Costs

Table 2 provides a summary of the closure costs associated with APP facilities for the Project, which includes the TSFs, HLF, waste rock, and ponds. Table 3 provides a summary and comparison of the APP facility closure cost estimate that are reviewed and approved by the Arizona Department of Environmental Quality, and the Mined Land Reclamation Plan reclamation cost estimate that is reviewed and approved by the Reclamation Division of the Arizona State Mine Inspector. The MLRP cost include reclamation of non-APP facilities such as road, buildings, and other infrastructure.

Table 3: Summary of APP and MLRP Costs

Facility	Labor	Equipment	Materials	Indirect and other costs	Total
APP Costs	$35,949,347	$29,984,843	$5,073,967	$20,670,578	$91,678,735
MLRP Costs	$10,380,621	$5,589,575	$1,895,024	$6,544,247	$24,409,467
Total Cost	**$46,329,968**	**$35,574,418**	**$6,968,991**	**$27,214,825**	**$116,088,202**

6.3 Post-Closure Cost Estimate

Post-closure consists of O&M activities to maintain the tailings impoundment reclamation and POC well monitoring. The O&M will begin the year following completion of both Closure Stage 1 and Closure Stage 2 reclamation activities and will occur for at least 5 years following the final closure activity associated with the TSFs (passive evaporation cells). Post-closure monitoring activities will include inspections to ensure erosion protection best management practices (BMP) and revegetation are successful on the APP regulated facilities. It is assumed that inspections will be conducted for a period of 5 years following completion of the grading and seeding of each facility, with the final inspections associated with TSF-1. For costing

wood.

RCC-CW004792

purposes, it is assumed that 10% of the reclaimed areas will require maintenance associated with erosion protection and revegetation for the APP regulated facilities.

Post-closure water quality monitoring at the POCs will be conducted for a period of 35 years following cessation of mining and processing activity at the Project. For purposes of the cost estimate, this 35-year period of POC sampling will begin following completion of active mining and processing and will extend to five years beyond when the passive sulfate-reducing treatment cells were put into use. The cost estimate for POC sampling is based on quarterly sampling at the ten POC locations for the first three years and annual sampling for the remainder of the monitoring period.

7.0 References

Arizona Department of Environmental Quality (ADEQ), 2004. Arizona Mining BADCT Guidance Manual, Aquifer Protection Program, Publication #TB 04-01.

Caterpillar, 2018. Caterpillar Performance Handbook, Version 48, Caterpillar. June.

Nevada Department of Environmental Protection, 2017. Nevada Heap Leach Draindown Estimator, https://ndep.nv.gov/land/mining/reclamation/reclamation-cost-estimator. Version 1.4.1 with Build 17b Pre-loaded with Updated Cost Data

Piteau, 2022A. Rosemont Copper World Project, Geochemical Impacts Assessment, March 2022.

Piteau, 2022B. Rosemont Copper World Project, Hydrogeological Characterization, May 2022.

Process Fluid Cost Estimator, Nevada Department of Environmental Protection, 2021. Process Fluid Cost Estimator, https://ndep.nv.gov/land/mining/reclamation/reclamation-cost-estimatorStandardized Reclamation Cost Estimator, https://ndep.nv.gov/land/mining/reclamation/reclamation-cost-estimator.

RSMeans, 2019. Means Heavy Construction Costs, 33rd Annual Edition, Gordian. 2019.

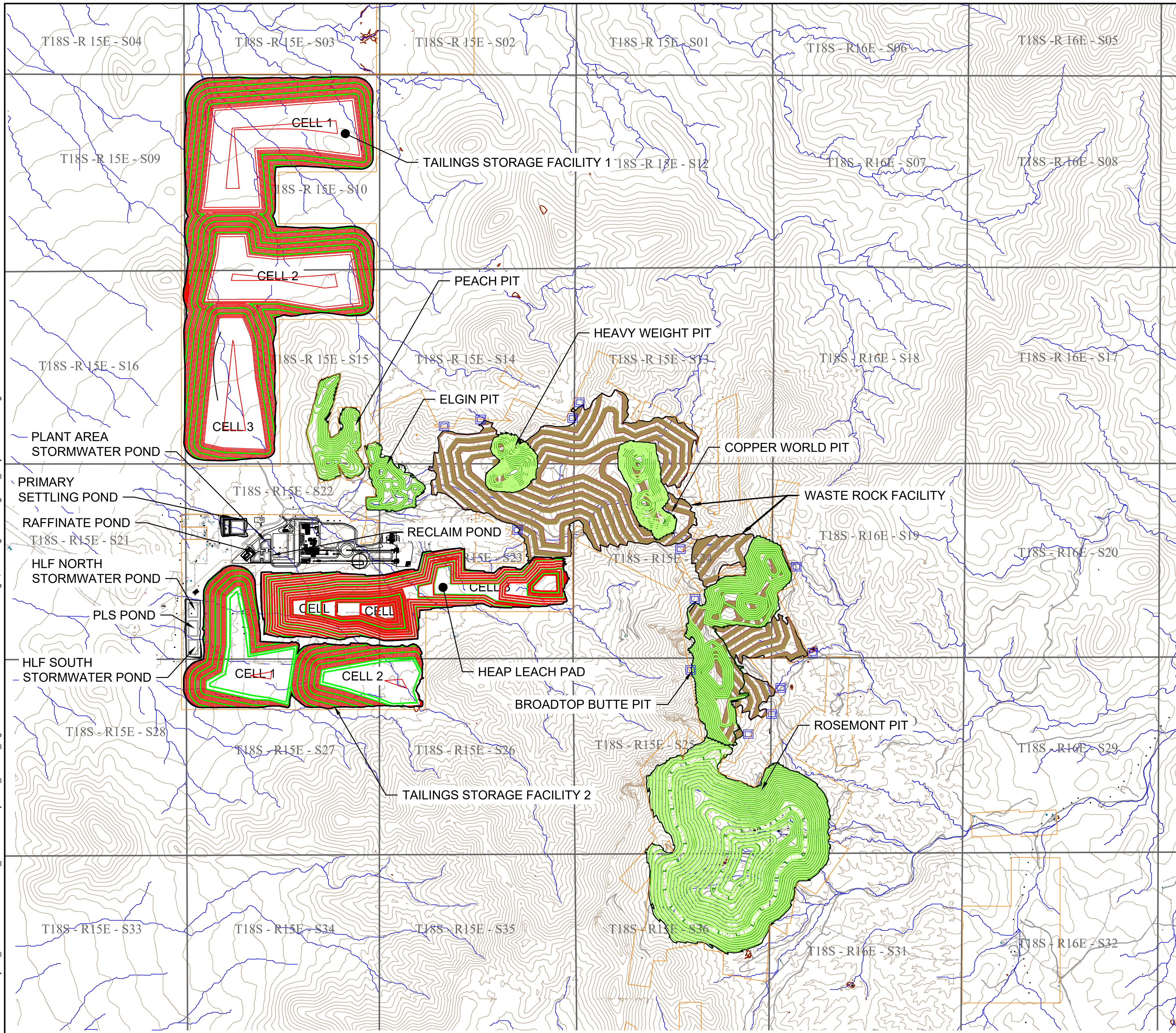
Standardized Reclamation Cost Estimator, https://ndep.nv.gov/land/mining/reclamation/reclamation-cost-estimator. Version 1.4.1.

Wood, 2022. Site-Wide Water Management Plan. Rosemont Copper World Project. January 2022.

RCC-CW004794

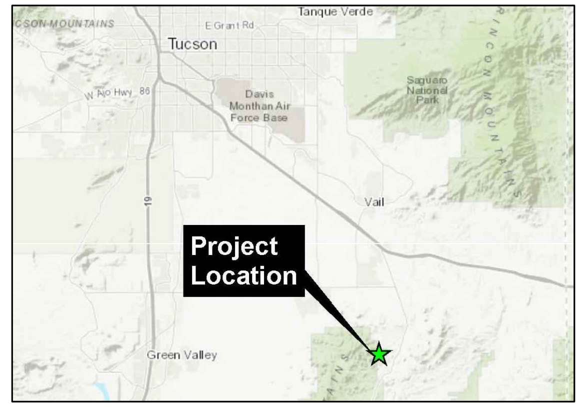
wood.

Figures



SITE PLAN

SCALE: 1" = 3000'



KEY PLAN

SCALE: N.T.S.

NOTE(S):

1. THIS FIGURE SHOULD BE READ IN CONJUNCTION WITH THE SITE WATER MANAGEMENT PLAN.

LEGEND:

3750 MAJOR CONTOURS ONLY	WASTE ROCK
PROPERTY BOUNDARY	PIT EXCAVATION AREA
PIMA COUNTY FLOODPLAIN	WRF SEDIMENT POND
ROAD	TAILINGS/ HEAP LEACH PAD

0 3000' 6000'

ROSEMONT COPPER WORLD PROJECT
CONCEPTUAL CLOSURE PLAN
PROJECT FACILITIES

wood.

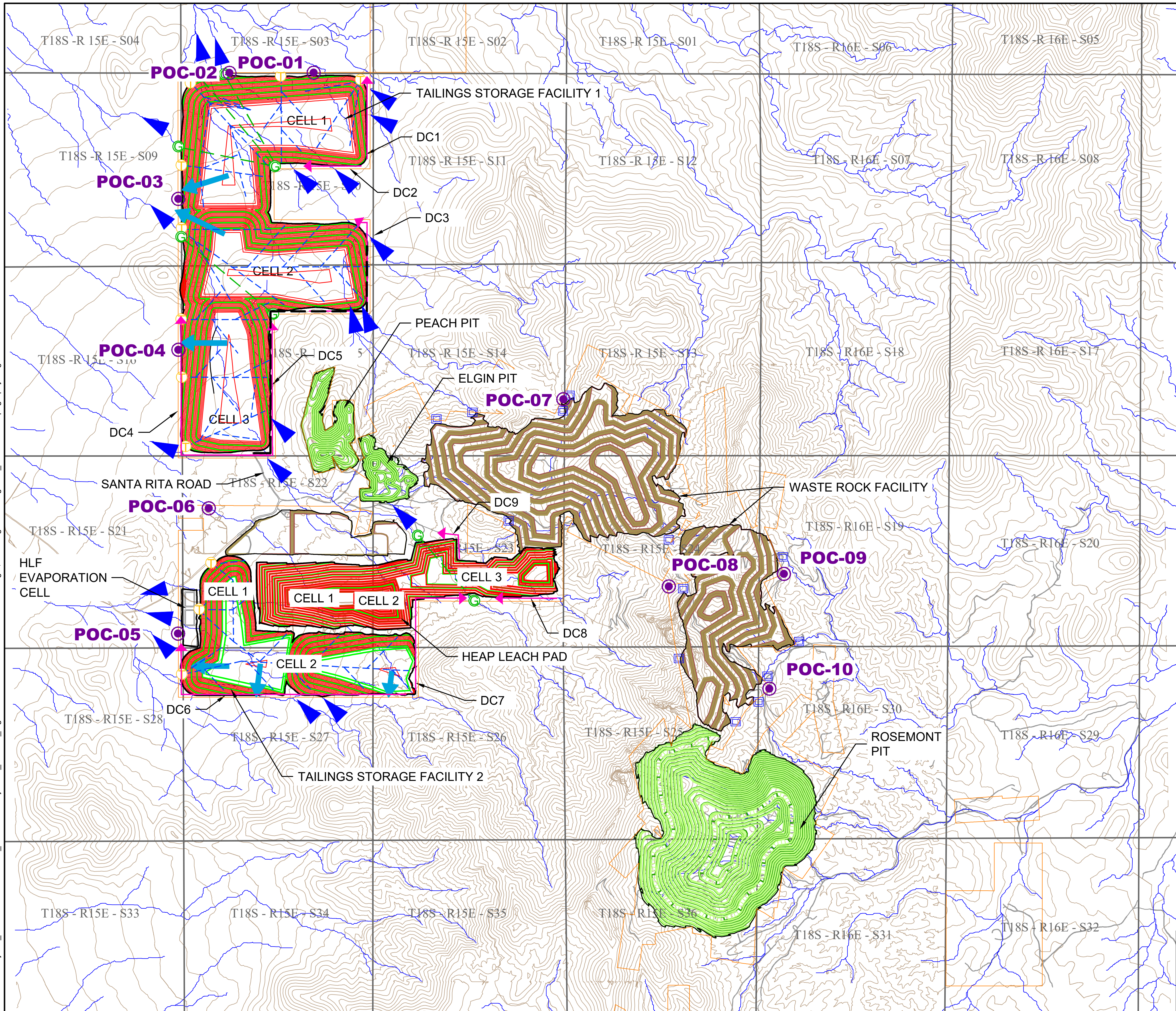
WOOD ENVIRONMENT & INFRASTRUCTURE SOLUTIONS
4600 E WASHINGTON ST, SUITE 600
PHOENIX, ARIZONA 85034
PHONE: 602-733-6000

Figure: 1

By: OAS | Date: 21/12/21 | Project No: 17-2021-4024

Drawing Path: P:\2021\Projects_Other\17202214024.001_Rosemont Project\13_CAD\03_Figures\006 - 17-12-2021 - Closure Package\ Drawing Name: Figure 1_Project Location.dwg Plot Date: 08/03/22 - 8:38am

Drawing Path: P:\2021\Projects_Other\17202140024.001_Rosemont Project\13_CAD\03_Figures\006 - 17-12-2021 - Closure Package\ Drawing Name: Figure 2_Reclaimed Topography.dwg Plot Date: 08/03/22 - 8:43am



NOTE(S):

1. THIS FIGURE SHOULD BE READ IN CONJUNCTION WITH THE SITE WATER MANAGEMENT PLAN.

LEGEND:

- 3750 MAJOR CONTOURS
- FLOW DIRECTION
- PROPERTY BOUNDARY
- PIMA COUNTY FLOODPLAIN
- PERMANENT DIVERSION CHANNEL
- ROAD
- YEARLY WASTE ROCK PLACEMENT
- YEARLY PIT EXCAVATION AREA
- TAILINGS/ HEAP LEACH PAD
- T SULFATE REDUCING TREATMENT CELLS
- G STORMWATER COLLECTION GALLERY (NON-CONTACT WATER)
- NON-CONTACT WATER PIPELINE
- DC1 DIVERSION CHANNEL ABBREVIATION
- WRF SEDIMENT POND
- TSF RUNOFF CHANNEL
- POINT OF COMPLIANCE

N

0 3000' 6000'

SITE PLAN

SCALE: 1" = 3000'

ROSEMONT COPPER WORLD PROJECT
CONCEPTUAL CLOSURE PLAN

RECLAIMED TOPOGRAPHY

wood.

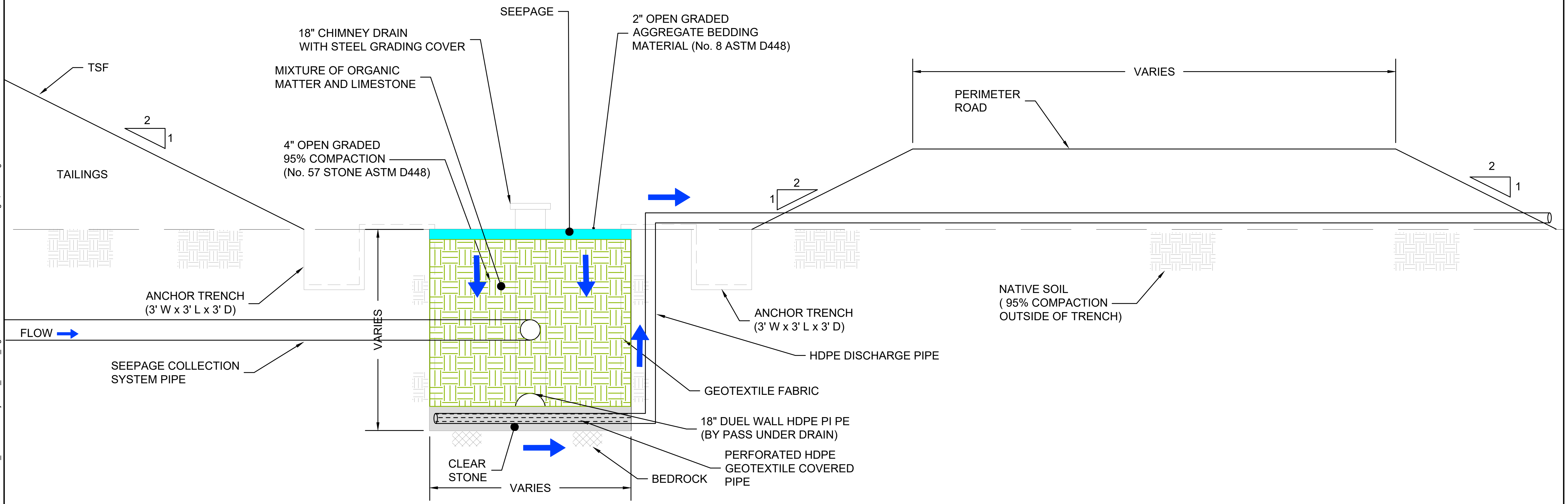
WOOD ENVIRONMENT & INFRASTRUCTURE SOLUTIONS
4600 E WASHINGTON ST, SUITE 600
PHOENIX, ARIZONA 85034
PHONE: 602-733-6000

Figure: 2

By: OAS	Date: 11/11/21	Project No: 17-2021-4024

NOTE(S):

1. THIS FIGURE SHOULD BE READ IN CONJUNCTION WITH THE SITE WATER MANAGEMENT PLAN.



TYPICAL SECTION

SCALE: N.T.S.

ROSEMONT COPPER WORLD PROJECT
CONCEPTUAL CLOSURE PLAN
SCHEMATIC OF TYPICAL SULFATE
REDUCTION TREATMENT CELL
TYPICAL SECTION

wood.
WOOD ENVIRONMENT & INFRASTRUCTURE SOLUTIONS
4600 E WASHINGTON ST, SUITE 600
PHOENIX, ARIZONA 85034
PHONE: 602-733-6000

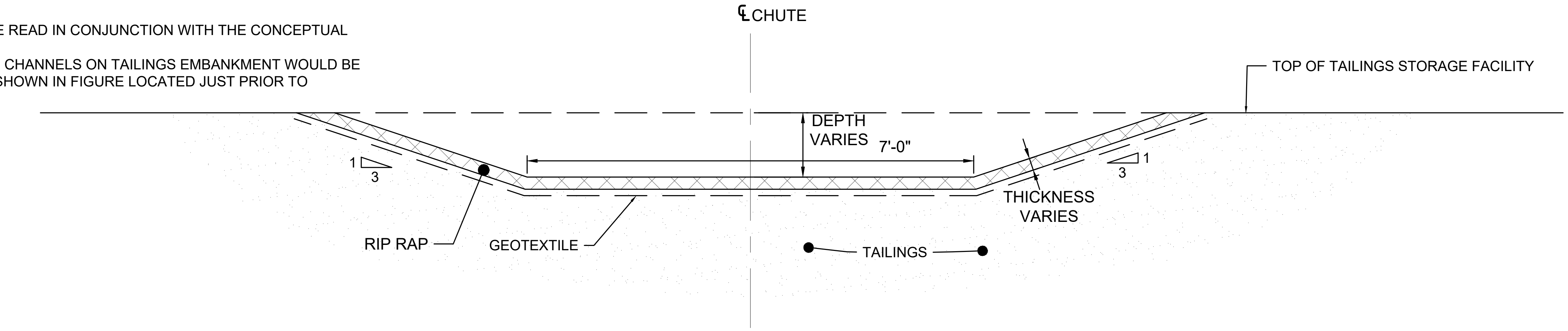
Figure: 3

By: GG | Date: 17/11/21 | Project No: 17-2021-4024

Drawing Path: P:\2021\Projects_Other\1720214024.001_Rosemont Project\13_CAD\03_Figures\006 - 17-12-2021 - Closure Package\, Drawing Name: FIG 3 - SCHEMATIC OF TYPICAL SULFATE REDUCTION TREATMENT CELL.dwg Plot Date: 07/27/22 - 12:50pm

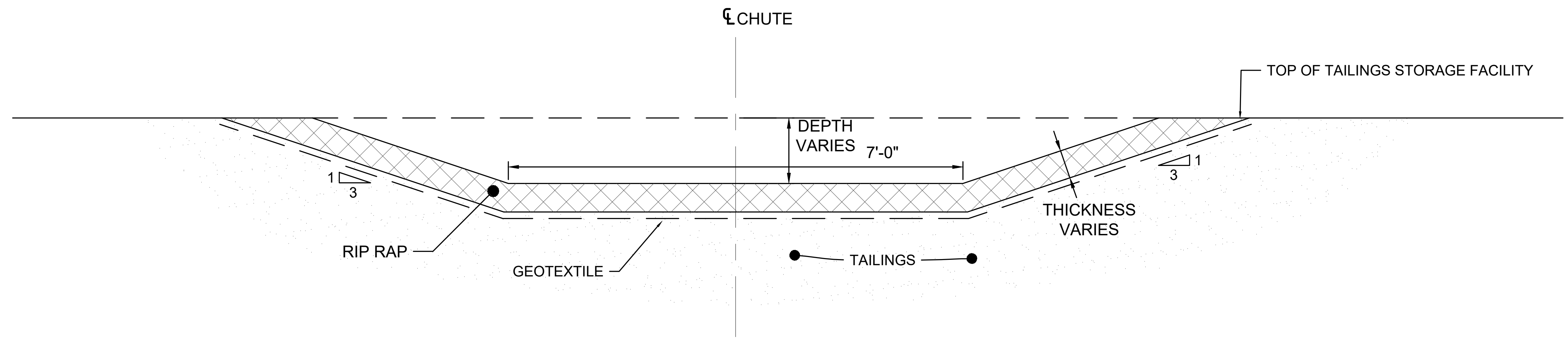
NOTE(S):

1. THIS FIGURE SHOULD BE READ IN CONJUNCTION WITH THE CONCEPTUAL CLOSURE PLAN
2. HORIZONTAL / VERTICAL CHANNELS ON TAILINGS EMBANKMENT WOULD BE OF SIMILAR DESIGN AS SHOWN IN FIGURE LOCATED JUST PRIOR TO CLOSURE ACTIVITY.



TYPICAL TSF RUNOFF CHANNEL - CROSS SECTION AT TOP OF CHUTE THROUGH NOTCH

SCALE: NOT TO SCALE



TYPICAL TSF RUNOFF CHANNEL - CROSS SECTION AT BOTTOM OF CHUTE

SCALE: NOT TO SCALE

ROSEMONT COPPER WORLD PROJECT
CONCEPTUAL CLOSURE PLAN

TSF RUNOFF CHANNEL
CROSS SECTIONS

wood.

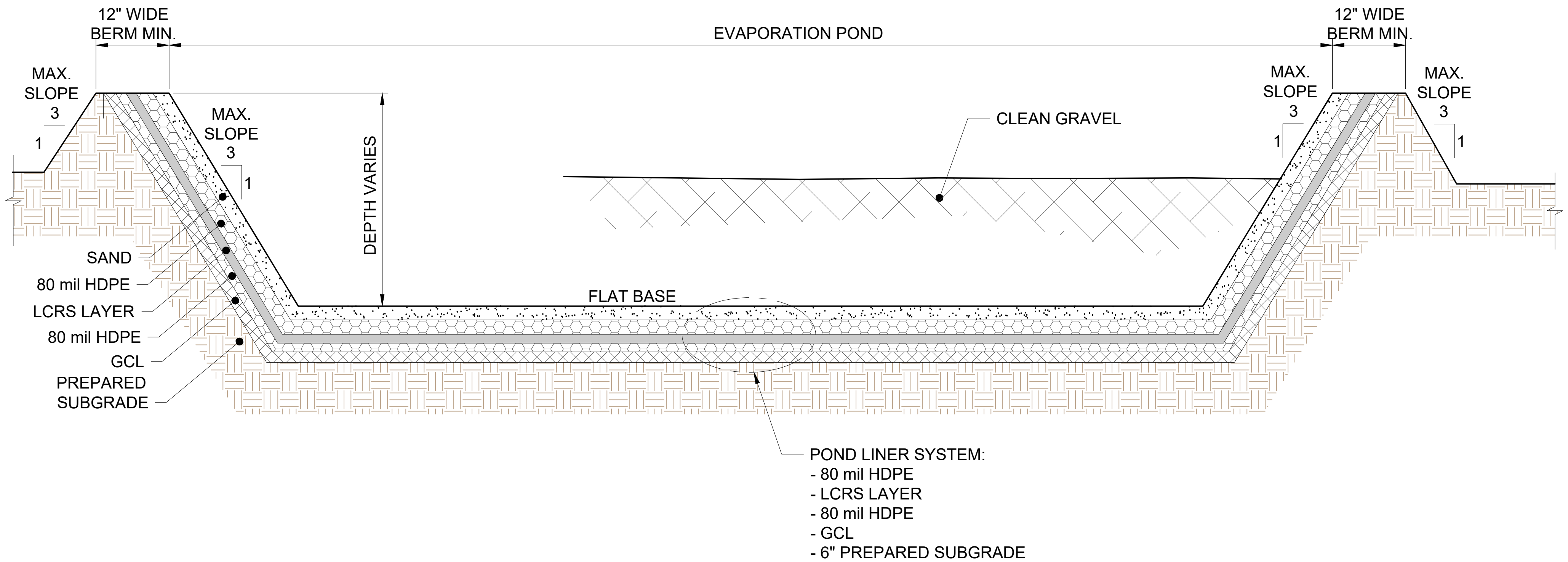
WOOD ENVIRONMENT & INFRASTRUCTURE SOLUTIONS
4600 E WASHINGTON ST, SUITE 600
PHOENIX, ARIZONA 85034
PHONE: 602-733-6000

Figure: 4

By: XXX | Date: XX/XX/XX | Project No: 17-2021-4024

NOTE(S):

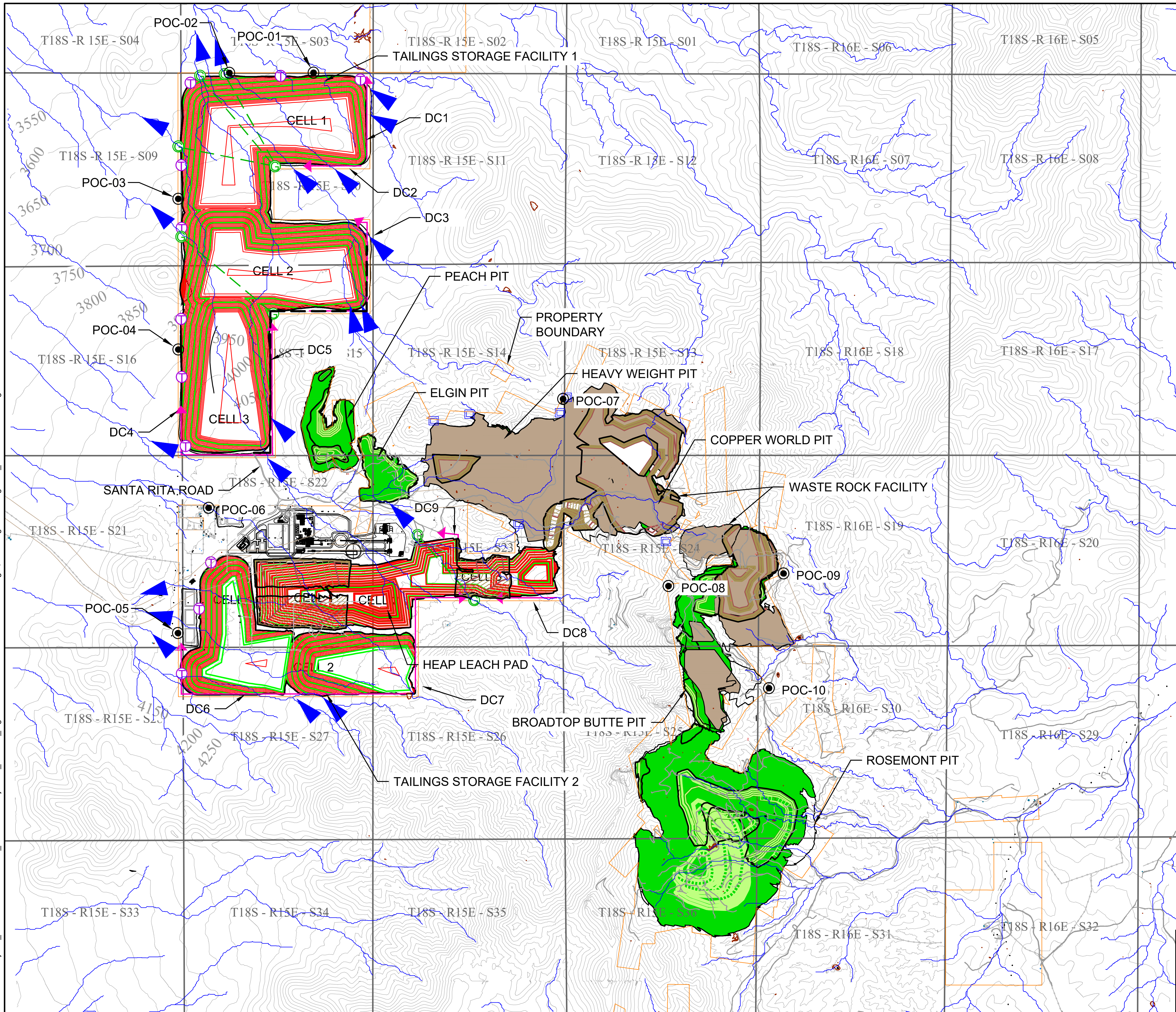
1. THIS FIGURE SHOULD BE READ IN CONJUNCTION WITH THE CONCEPTUAL CLOSURE PLAN.



SCHEMATIC OF TYPICAL EVAPORATION CELL

SCALE: NOT TO SCALE

ROSEMONT COPPER WORLD PROJECT CONCEPTUAL CLOSURE PLAN SCHEMATIC OF TYPICAL EVAPORATION CELL	wood. WOOD ENVIRONMENT & INFRASTRUCTURE SOLUTIONS 4600 E WASHINGTON ST, SUITE 600 PHOENIX, ARIZONA 85034 PHONE: 602-733-6000
By: XXX Date: XX/XX/XX Project No: 17-2021-4024	Figure: 5



SITE PLAN

SCALE: 1" = 3000'

NOTE(S):

1. THIS FIGURE SHOULD BE READ IN CONJUNCTION WITH THE CONCEPTUAL CLOSURE PLAN.

LEGEND:

- MAJOR CONTOURS
- FLOW DIRECTION
- PROPERTY BOUNDARY
- PIMA COUNTY FLOODPLAIN
- PERMANENT DIVERSION CHANNEL
- ROAD
- YEARLY WASTE ROCK PLACEMENT
- YEARLY PIT EXCAVATION AREA
- TAILINGS/ HEAP LEACH PAD
- SEEPAGE COLLECTION TRENCH (CONTACT WATER)
- STORMWATER COLLECTION GALLERY (NON-CONTACT WATER)
- NON-CONTACT WATER PIPELINE
- DC1 DIVERSION CHANNEL ABBREVIATION
- WRF SEDIMENT BASIN
- POINT OF COMPLIANCE

POINT OF COMPLIANCE LOCATIONS		
DESCRIPTION	NORTHING	EASTING
POC-01	11,575,940	1,704,028
POC-02	11,575,934	1,701,712
POC-03	11,572,471	1,700,305
POC-04	11,568,326	1,700,308
POC-05	11,560,525	1,700,299
POC-06	11,563,969	1,701,143
POC-07	11,566,965	1,710,893
POC-08	11,561,820	1,713,791
POC-09	11,562,166	1,716,956
POC-10	11,559,012	1,716,556

ROSEMONT COPPER WORLD PROJECT
CONCEPTUAL CLOSURE PLAN

POINT OF COMPLIANCE LOCATIONS

wood.

WOOD ENVIRONMENT & INFRASTRUCTURE SOLUTIONS
4600 E WASHINGTON ST, SUITE 600
PHOENIX, ARIZONA 85034
PHONE: 602-733-6000

By: OAS | Date: 11/11/21 | Project No: 17-2021-4024

Figure: 6

Drawing Path: P:\2021\Projects_Other\17202140244.001_Rosemont Project\13_CAD\03_Figures\006 - 17-12-2021 - Closure Package\, Drawing Name: Figure 6_POC Locations.dwg Plot Date: 08/03/22 - 8:51am

Appendix A: HLDE Model Output for HLP

Company :	Wood Environmental and Infrastructure Solutions, Inc. (Wood)
Project :	Rosemont Copper World Project

HLDE
Version 1.2

Revised: **9-Dec-21**

Total Area of Heap Leach Pad	ft^2	14,636,160
	acres	336
Area of Actively Used Heap Leach Pad	ft^2	11,610,967
Area of Historically Used Heap Leach Pad	ft^2	0
Operational Draindown Rate	gpm	2,500
Application Rate	gpm/ft^2	0.004
Height of Heap Leach Pad	ft	144
Saturated Hydraulic Conductivity (K_s)	ft/day	20.00
Residual Water Content (θr)	Decimal	0.06
θs (saturated moisture content)	Decimal	0.25
θapp (active application moisture content)	Decimal	0.20
θhist (moisture content of historic part at PFS start)	Decimal	0.18
γ (empirical drainage parameter)	unitless	21.26
Time unit of interest		

Precipitation			
Total Annual Precip	19.73	inches	
Uncovered Infiltration Rate	2%		
Covered Infiltration Rate	1.00%		
Monthly portion			
	%	inches/mo.	inches/day
January	9%	1.78	0.057
February	6%	1.18	0.042
March	3%	0.53	0.017
April	3%	0.59	0.020
May	3%	0.59	0.019
June	6%	1.14	0.038
July	22%	4.34	0.140
August	20%	3.95	0.127
September	15%	2.96	0.099
October	3%	0.59	0.019
November	4%	0.70	0.023
December	7%	1.38	0.045
Total (must equal 100%)	**100%**	**19.73**	

Pond Capacity Data		
Pond Capacity Data[2]	15,683,000	gal
	2,096,658	ft3
Beginning Pond Level	11,100,000	gal
	1,483,957	ft3

Recirculators		
Pump Capacity	2,500	gpm
	481,283	ft^3/day
Pond Volume that Triggers Recirculation	7,500,000	gal
	1,002,674	ft3

Monthly Evaporation Data		
	Pan Evap.	
	inches/mo.	inches/day
January	2.86	0.09
February	4.03	0.14
March	6.12	0.20
April	8.71	0.29
May	11.34	0.37
June	13.14	0.44
July	11.60	0.37
August	10.26	0.33
September	9.12	0.30
October	6.88	0.22
November	4.17	0.14
December	2.97	0.10
Total	**91.20**	

Evaporators		
Number of Evaporators on Day 1	10	
Evaporator Pumping Capacity	100	gpm
Evaporator Operating Time	24	hr/day
	Efficiency	Effective Evaporation
	%	ft^3/day
January	43%	82,781
February	48%	92,406
March	55%	105,882
April	63%	121,283
May	71%	136,684
June	77%	148,235
July	72%	138,610
August	68%	130,909
September	64%	123,209
October	57%	109,733
November	49%	94,332
December	43%	82,781
Averages	59%	98,342

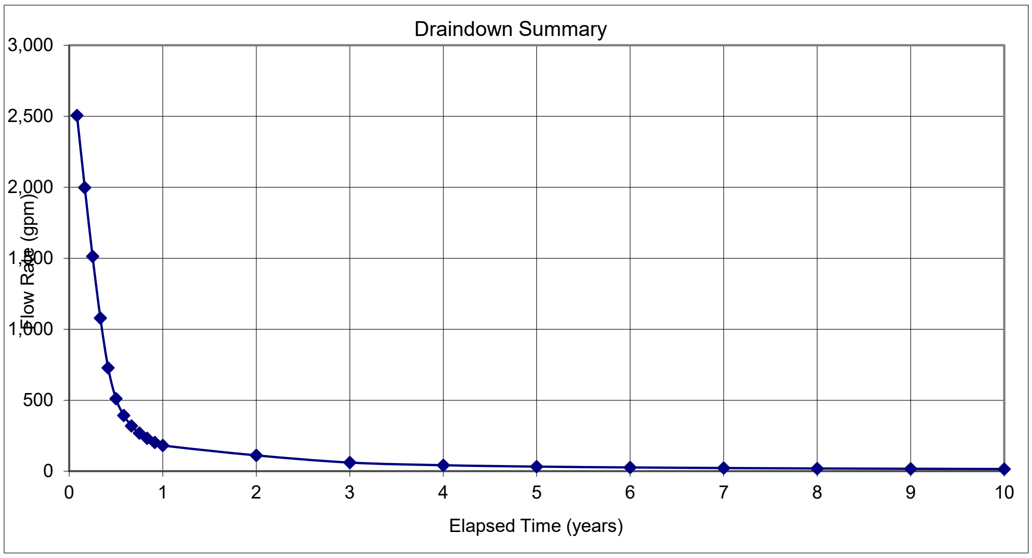
ET Cell Data		
Total Existing ET Cell Area[1]	270,000	ft^2
	6.20	ac
Total Flow Capacity of ET Cell	3.00	gpm/ac
	18.60	gpm

[1]Only double-lined processs ponds may be used for pond capacity/ET cell capacity.

RCC-CW004803

Summary of Draindown Rates

	Months	Years		Average Monthly Flow	
Ave Flow	1	0.08	=	2504.81	GPM
Ave Flow	2	0.17	=	1998.13	GPM
Ave Flow	3	0.25	=	1512.43	GPM
Ave Flow	4	0.33	=	1079.43	GPM
Ave Flow	5	0.42	=	728.61	GPM
Ave Flow	6	0.50	=	510.90	GPM
Ave Flow	7	0.58	=	393.60	GPM
Ave Flow	8	0.67	=	319.10	GPM
Ave Flow	9	0.75	=	268.68	GPM
Ave Flow	10	0.83	=	231.63	GPM
Ave Flow	11	0.92	=	203.19	GPM
Ave Flow	12	1	=	180.98	GPM
Ave Flow		2	=	111.23	GPM
Ave Flow		3	=	60.49	GPM
Ave Flow		4	=	41.76	GPM
Ave Flow		5	=	31.98	GPM
Ave Flow		6	=	26.16	GPM
Ave Flow		7	=	22.02	GPM
Ave Flow		8	=	19.05	GPM
Ave Flow		9	=	16.83	GPM
Ave Flow		10	=	15.09	GPM
Ave Flow		11	=	13.71	GPM
Ave Flow		12	=	12.57	GPM
Ave Flow		13	=	11.63	GPM
Ave Flow		14	=	10.83	GPM
Ave Flow		15	=	10.15	GPM
Ave Flow		16	=	9.56	GPM
Ave Flow		17	=	9.04	GPM
Ave Flow		18	=	8.59	GPM
Ave Flow		19	=	8.19	GPM
Ave Flow		20	=	7.83	GPM
Ave Flow		21	=	7.51	GPM
Ave Flow		22	=	7.22	GPM
Ave Flow		23	=	6.95	GPM
Ave Flow		24	=	6.71	GPM
Ave Flow		25	=	6.49	GPM
Ave Flow		26	=	6.29	GPM
Ave Flow		27	=	6.11	GPM
Ave Flow		28	=	5.94	GPM
Ave Flow		29	=	5.78	GPM
Ave Flow		30	=	5.63	GPM



Total Volume of Water to drain out in 1 year	**431,740,241 gal**
Total Volume of Water to drain out in 2 years	**490,204,398 gal**
Total Volume of Water to drain out in 3 years	**521,998,226 gal**
Total Volume of Water to drain out in 4 years	**543,948,748 gal**
Total Volume of Water to drain out in 5 years	**560,757,480 gal**
Total Volume of Water to drain out in 10 years	**612,856,036 gal**
Total Volume of Water to drain out in 20 years	**666,509,954 gal**
Total Volume of Water to drain out in 30 years	**700,478,721 gal**
Total Volume of Water Actively Evaporated in 1 year	**211,728,519 gal**
Total Volume of Water Actively Evaporated in 2 years	**258,680,953 gal**
Total Volume of Water Actively Evaporated in 3 years	**278,963,058 gal**
Total Volume of Water Actively Evaporated in 4 years	**289,401,858 gal**
Total Volume of Water Actively Evaporated in 5 years	**295,030,705 gal**
Total Volume of Water Actively Evaporated in 6 years	**295,147,599 gal**
Total Volume of Water Actively Evaporated in 10 years	**295,257,837 gal**
Total Volume of Water Actively Evaporated in 20 years	**295,257,837 gal**
Total Volume of Water Actively Evaporated in 30 years	**295,257,837 gal**
Total Volume of Water Recirculated to Pad	**219,600,000 gal**

Appendix B: HLDE Model Output for TSFs

Company :	Wood Environmental and Infrastructure Solutions, Inc. (Wood)
Project :	Rosemont Copper World Project

HLDE
Version 1.2

Revised: **14-Dec-21**

Total Area of Heap Leach Pad	ft^2	41,207,760
	acres	946
Area of Actively Used Heap Leach Pad	ft^2	7,710,120
Area of Historically Used Heap Leach Pad	ft^2	30,840,480
Operational Draindown Rate	gpm	759
Application Rate	gpm/ft^2	0.001
Height of Heap Leach Pad	ft	270
Saturated Hydraulic Conductivity (K_s)	ft/day	0.01
Residual Water Content (θr)	Decimal	0.02
θs (saturated moisture content)	Decimal	0.38
θapp (active application moisture content)	Decimal	0.29
θhist (moisture content of historic part at PFS start)	Decimal	0.06
γ (empirical drainage parameter)	unitless	0.60
Time unit of interest		Days

Monthly Evaporation Data		
	Pan Evap.	
	inches/mo.	inches/day
January	2.86	0.09
February	4.03	0.14
March	6.12	0.20
April	8.71	0.29
May	11.34	0.37
June	13.14	0.44
July	11.60	0.37
August	10.26	0.33
September	9.12	0.30
October	6.88	0.22
November	4.17	0.14
December	2.97	0.10
Total	**91.20**	

Precipitation			
Total Annual Precip	19.73	inches	
Uncovered Infiltration Rate	2%		
Covered Infiltration Rate	1.00%		
Monthly portion			
	%	inches/mo.	inches/day
January	9%	1.78	0.057
February	6%	1.18	0.042
March	3%	0.53	0.017
April	3%	0.59	0.020
May	3%	0.59	0.019
June	6%	1.14	0.038
July	22%	4.34	0.140
August	20%	3.95	0.127
September	15%	2.96	0.099
October	3%	0.59	0.019
November	4%	0.70	0.023
December	7%	1.38	0.045
Total (must equal 100%)	**100%**	**19.73**	

Evaporators		
Number of Evaporators on Day 1	30	
Evaporator Pumping Capacity	120	gpm
Evaporator Operating Time	24	hr/day
	Efficiency	Effective Evaporation
	%	ft^3/day
January	43%	298,011
February	48%	332,663
March	55%	381,176
April	63%	436,620
May	71%	492,064
June	77%	533,647
July	72%	498,995
August	68%	471,273
September	64%	443,551
October	57%	395,037
November	49%	339,594
December	43%	298,011
Averages	59%	354,032

Pond Capacity Data		
Pond Capacity Data[2]	14,000,000	gal
	1,871,658	ft3
Beginning Pond Level	7,000,000	gal
	935,829	ft3

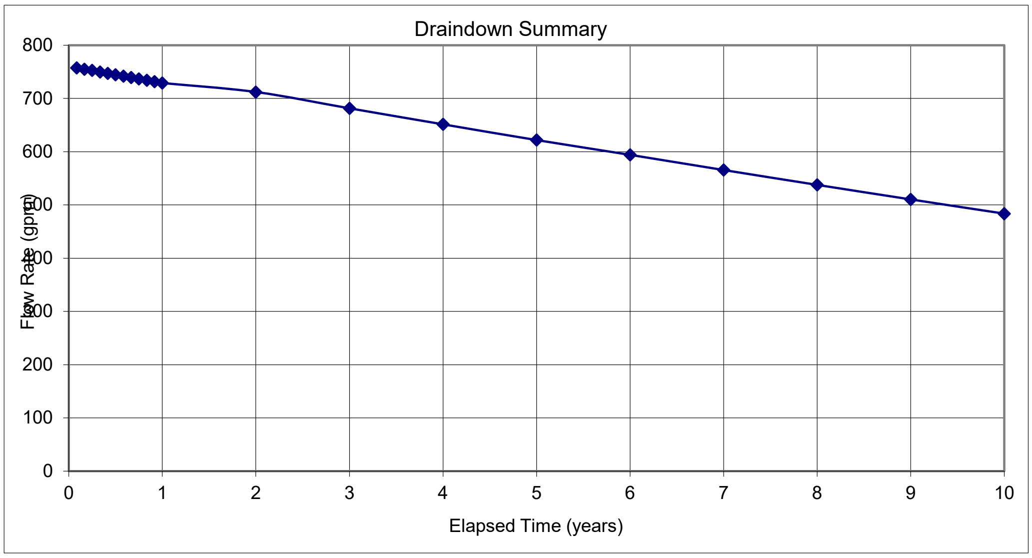
ET Cell Data		
Total Existing ET Cell Area[1]	250,000	ft^2
	5.74	ac
Total Flow Capacity of ET Cell	11.48	gpm/ac
	65.88	gpm

Recirculators		
Pump Capacity	1,138	gpm
	219,119	ft^3/day
Pond Volume that Triggers Recirculation	8,000,000	gal
	1,069,519	ft3

[1]Only double-lined processs ponds may be used for pond capacity/ET cell capacity.

Summary of Draindown Rates

	Months	Years		Average Monthly Flow	
Ave Flow	1	0.08	=	757.81	GPM
Ave Flow	2	0.17	=	755.24	GPM
Ave Flow	3	0.25	=	752.67	GPM
Ave Flow	4	0.33	=	750.01	GPM
Ave Flow	5	0.42	=	747.35	GPM
Ave Flow	6	0.50	=	744.70	GPM
Ave Flow	7	0.58	=	742.10	GPM
Ave Flow	8	0.67	=	739.49	GPM
Ave Flow	9	0.75	=	736.91	GPM
Ave Flow	10	0.83	=	734.30	GPM
Ave Flow	11	0.92	=	731.67	GPM
Ave Flow	12	1	=	729.04	GPM
Ave Flow		2	=	712.20	GPM
Ave Flow		3	=	681.56	GPM
Ave Flow		4	=	651.46	GPM
Ave Flow		5	=	621.92	GPM
Ave Flow		6	=	594.12	GPM
Ave Flow		7	=	565.63	GPM
Ave Flow		8	=	537.72	GPM
Ave Flow		9	=	510.42	GPM
Ave Flow		10	=	483.73	GPM
Ave Flow		11	=	457.68	GPM
Ave Flow		12	=	432.29	GPM
Ave Flow		13	=	407.57	GPM
Ave Flow		14	=	383.55	GPM
Ave Flow		15	=	360.24	GPM
Ave Flow		16	=	337.68	GPM
Ave Flow		17	=	315.90	GPM
Ave Flow		18	=	294.93	GPM
Ave Flow		19	=	274.81	GPM
Ave Flow		20	=	255.59	GPM
Ave Flow		21	=	237.31	GPM
Ave Flow		22	=	220.05	GPM
Ave Flow		23	=	203.87	GPM
Ave Flow		24	=	188.87	GPM
Ave Flow		25	=	175.14	GPM
Ave Flow		26	=	162.79	GPM
Ave Flow		27	=	151.90	GPM
Ave Flow		28	=	142.47	GPM
Ave Flow		29	=	134.35	GPM
Ave Flow		30	=	127.22	GPM



Total Volume of Water to drain out in 1 year	**390,717,167 gal**
Total Volume of Water to drain out in 2 years	**765,050,081 gal**
Total Volume of Water to drain out in 3 years	**1,123,278,202 gal**
Total Volume of Water to drain out in 4 years	**1,465,686,357 gal**
Total Volume of Water to drain out in 5 years	**1,792,565,070 gal**
Total Volume of Water to drain out in 10 years	**3,207,123,625 gal**
Total Volume of Water to drain out in 20 years	**5,057,112,484 gal**
Total Volume of Water to drain out in 30 years	**5,973,597,875 gal**
Total Volume of Water Actively Evaporated in 1 year	**387,058,165 gal**
Total Volume of Water Actively Evaporated in 2 years	**750,732,076 gal**
Total Volume of Water Actively Evaporated in 3 years	**1,098,301,195 gal**
Total Volume of Water Actively Evaporated in 4 years	**1,430,050,347 gal**
Total Volume of Water Actively Evaporated in 5 years	**1,746,270,057 gal**
Total Volume of Water Actively Evaporated in 6 years	**1,756,186,611 gal**
Total Volume of Water Actively Evaporated in 10 years	**1,791,031,804 gal**
Total Volume of Water Actively Evaporated in 20 years	**1,848,362,894 gal**
Total Volume of Water Actively Evaporated in 30 years	**1,874,999,806 gal**
Total Volume of Water Recirculated to Pad	**0 gal**

RCC-CW004809

Company :	Wood Environmental and Infrastructure Solitons, Inc. (Wood)	HLDE	Revised:	14-Dec-21
Project :	Rosemont Copper World Project	Version 1.2		

Total Area of Heap Leach Pad	ft^2	13,372,920
	acres	307
Area of Actively Used Heap Leach Pad	ft^2	2,709,432
Area of Historically Used Heap Leach Pad	ft^2	10,837,728
Operational Draindown Rate	gpm	377
Application Rate	gpm/ft^2	0.001
Height of Heap Leach Pad	ft	200
Saturated Hydraulic Conductivity (K_s)	ft/day	0.01
Residual Water Content (θr)	Decimal	0.02
θs (saturated moisture content)	Decimal	0.38
θapp (active application moisture content)	Decimal	0.29
θhist (moisture content of historic part at PFS start)	Decimal	0.06
γ (empirical drainage parameter)	unitless	0.36
Time unit of interest		Days

Precipitation			
Total Annual Precip	19.73	inches	
Uncovered Infiltration Rate	2%		
Covered Infiltration Rate	1.00%		
Monthly portion			
	%	inches/mo.	inches/day
January	9%	1.78	0.057
February	6%	1.18	0.042
March	3%	0.53	0.017
April	3%	0.59	0.020
May	3%	0.59	0.019
June	6%	1.14	0.038
July	22%	4.34	0.140
August	20%	3.95	0.127
September	15%	2.96	0.099
October	3%	0.59	0.019
November	4%	0.70	0.023
December	7%	1.38	0.045
Total (must equal 100%)	**100%**	**19.73**	

Pond Capacity Data		
Pond Capacity Data[2]	14,000,000	gal
	1,871,658	ft3
Beginning Pond Level	7,000,000	gal
	935,829	ft3

Recirculators		
Pump Capacity	566	gpm
	108,866	ft^3/day
Pond Volume that Triggers Recirculation	8,000,000	gal
	1,069,519	ft3

Monthly Evaporation Data		
	Pan Evap.	
	inches/mo.	inches/day
January	2.86	0.09
February	4.03	0.14
March	6.12	0.20
April	8.71	0.29
May	11.34	0.37
June	13.14	0.44
July	11.60	0.37
August	10.26	0.33
September	9.12	0.30
October	6.88	0.22
November	4.17	0.14
December	2.97	0.10
Total	**91.20**	

Evaporators		
Number of Evaporators on Day 1	20	
Evaporator Pumping Capacity	120	gpm
Evaporator Operating Time	24	hr/day
	Efficiency	Effective Evaporation
	%	ft^3/day
January	43%	198,674
February	48%	221,775
March	55%	254,118
April	63%	291,080
May	71%	328,043
June	77%	355,765
July	72%	332,663
August	68%	314,182
September	64%	295,701
October	57%	263,358
November	49%	226,396
December	43%	198,674
Averages	59%	236,021

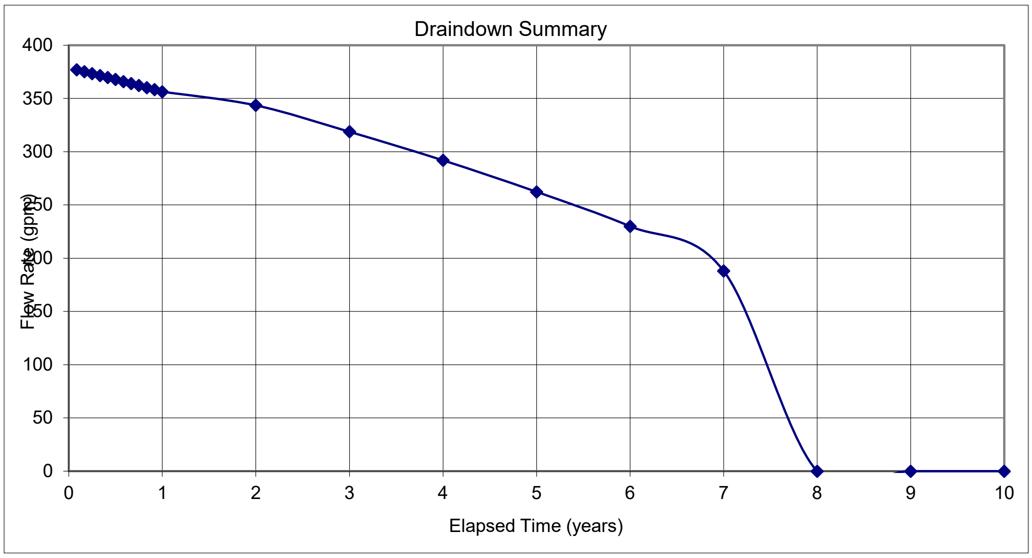
ET Cell Data		
Total Existing ET Cell Area[1]	250,000	ft^2
	5.74	ac
Total Flow Capacity of ET Cell	11.48	gpm/ac
	65.88	gpm

[1]Only double-lined processs ponds may be used for pond capacity/ET cell capacity.

RCC-CW004810

Summary of Draindown Rates

	Months	Years		Average Monthly Flow	
Ave Flow	1	0.08	=	377.03	GPM
Ave Flow	2	0.17	=	375.24	GPM
Ave Flow	3	0.25	=	373.45	GPM
Ave Flow	4	0.33	=	371.57	GPM
Ave Flow	5	0.42	=	369.69	GPM
Ave Flow	6	0.50	=	367.81	GPM
Ave Flow	7	0.58	=	365.93	GPM
Ave Flow	8	0.67	=	364.04	GPM
Ave Flow	9	0.75	=	362.16	GPM
Ave Flow	10	0.83	=	360.25	GPM
Ave Flow	11	0.92	=	358.31	GPM
Ave Flow	12	1	=	356.37	GPM
Ave Flow		2	=	343.53	GPM
Ave Flow		3	=	318.72	GPM
Ave Flow		4	=	291.91	GPM
Ave Flow		5	=	262.34	GPM
Ave Flow		6	=	229.95	GPM
Ave Flow		7	=	188.04	GPM
Ave Flow		8	=	#NUM!	GPM
Ave Flow		9	=	#NUM!	GPM
Ave Flow		10	=	#NUM!	GPM
Ave Flow		11	=	#NUM!	GPM
Ave Flow		12	=	#NUM!	GPM
Ave Flow		13	=	#NUM!	GPM
Ave Flow		14	=	#NUM!	GPM
Ave Flow		15	=	#NUM!	GPM
Ave Flow		16	=	#NUM!	GPM
Ave Flow		17	=	#NUM!	GPM
Ave Flow		18	=	#NUM!	GPM
Ave Flow		19	=	#NUM!	GPM
Ave Flow		20	=	#NUM!	GPM
Ave Flow		21	=	#NUM!	GPM
Ave Flow		22	=	#NUM!	GPM
Ave Flow		23	=	#NUM!	GPM
Ave Flow		24	=	#NUM!	GPM
Ave Flow		25	=	#NUM!	GPM
Ave Flow		26	=	#NUM!	GPM
Ave Flow		27	=	#NUM!	GPM
Ave Flow		28	=	#NUM!	GPM
Ave Flow		29	=	#NUM!	GPM
Ave Flow		30	=	#NUM!	GPM



Total Volume of Water to drain out in 1 year	**192,775,542**	**gal**
Total Volume of Water to drain out in 2 years	**373,333,161**	**gal**
Total Volume of Water to drain out in 3 years	**540,854,528**	**gal**
Total Volume of Water to drain out in 4 years	**694,282,559**	**gal**
Total Volume of Water to drain out in 5 years	**832,166,196**	**gal**
Total Volume of Water to drain out in 10 years	**#NUM!**	**gal**
Total Volume of Water to drain out in 20 years	**#NUM!**	**gal**
Total Volume of Water to drain out in 30 years	**#NUM!**	**gal**
Total Volume of Water Actively Evaporated in 1 year	**189,116,539**	**gal**
Total Volume of Water Actively Evaporated in 2 years	**359,015,156**	**gal**
Total Volume of Water Actively Evaporated in 3 years	**515,877,521**	**gal**
Total Volume of Water Actively Evaporated in 4 years	**658,646,549**	**gal**
Total Volume of Water Actively Evaporated in 5 years	**785,871,184**	**gal**
Total Volume of Water Actively Evaporated in 6 years	**789,494,885**	**gal**
Total Volume of Water Actively Evaporated in 10 years	**#NUM!**	**gal**
Total Volume of Water Actively Evaporated in 20 years	**#NUM!**	**gal**
Total Volume of Water Actively Evaporated in 30 years	**#NUM!**	**gal**
Total Volume of Water Recirculated to Pad	**#NUM!**	**gal**

#NUM!

Appendix C: Standardized Reclamation Cost Estimator Results

Enter Data Below in Green and Blue Spaces

STANDARDIZED RECLAMATION COST ESTIMATOR

Version 1.4.1
Build 017b (Revised 16 May 2019)
Approved for use in Nevada, August 1, 2012

COST DATA FILE INFORMATION

File Name: Copy of ROSEMONT Copper World SRCE_APP_Revised July 28 2022.xlsm

Cost Data File: SRCE_Cost_data-USR_1_12.xlsm

Cost Data Date: April 15, 2022

Cost Data Basis: User Data   Data Cost Units: Imperial

Author/Source: CDM Smith

PROJECT INFORMATION

Property/Mine Name: Rosemont Copper World Project   Property Code:

Project Name: Rosemont Copper World Conceptual Closure Plan

Date of Submittal: July 20, 2022   Average Altitude: 4300 ft.

Select One: ○ Notice or Sm Exploration Plan ○ Lg Exploration Plan ● Mine Operation

Select One: ○ Private Land ● Public or Public/Private

Cost Estimate Type: Surety

Cost Basis Category: Southern Nevada - Adjusted for Arizona

Cost Basis Description: **Clark, Esmeralda, Lincoln and Nye Counties - Adjusted for Pima County, AZ**

Closure Cost Estimate
Cost Summary
Project Name: Rosemont Copper World Conceptual Closure Plan
Project Date: July 20, 2022
Model Version: Version 1.4.1
File Name: Copy of ROSEMONT Copper World SRCE_APP_Revised July 28 2022.xlsm
Data Cost File: SRCE_Cost_data-USR_1_12.xlsm
Cost Basis: Southern Nevada - Adjusted for Arizona

A. Earthwork/Recontouring		Labor (1)	Equipment (2)	Materials	Total
Exploration		$0	$0	$0	$0
Exploration Roads & Drill Pads		$0	$0	$0	$0
Roads		$0	$0	$0	$0
Well Abandonment		$0	$0	$0	$0
Pits		$0	$0	N/A	$0
Quarries & Borrow Areas		$0	$0	$0	$0
Underground Openings		$0	$0	$0	$0
Process Ponds		$84,590	$195,578	$0	$280,168
Heaps		$549,724	$1,364,406	$5,850	$1,919,980
Waste Rock Dumps		$0	$0	$0	$0
Landfills		$0	$0	$0	$0
Tailings		$3,448,938	$9,278,150	$0	$12,727,088
Foundation & Buildings Areas		$0	$0	$0	$0
Yards, Etc.		$0	$0	$0	$0
Drainage & Sediment Control		$1,234,744	$279,749	$623,303	$2,137,796
Generic Material Hauling		$0	$0	$0	$0
Other User Costs (from Other User sheet)		$0	$0	$0	$0
Other**					$0
Subtotal		**$5,317,996**	**$11,117,883**	**$629,153**	**$17,065,032**
Mob/Demob if included in Other User sheet		$0	$0	$0	$0
Mob/Demob	**Rosemont RP21_APP_mob_demob_072022**	$201,254			$201,254
Subtotal "A"		**$5,519,250**	**$11,117,883**	**$629,153**	**$17,266,286**

B. Revegetation/Stabilization		Labor (1)	Equipment (2)	Materials	Total
Exploration		$0	$0	$0	$0
Exploration Roads & Drill Pads		$0	$0	$0	$0
Roads		$0	$0	$0	$0
Well Abandonment					N/A
Pits		$0	$0	$0	$0
Quarries & Borrow Areas		$0	$0	$0	$0
Underground Openings					N/A
Process Ponds		$0	$0	$0	$0
Heaps		$0	$0	$0	$0
Waste Rock Dumps		$0	$0	$0	$0
Landfills		$0	$0	$0	$0
Tailings		$0	$0	$0	$0
Foundation & Buildings Areas		$0	$0	$0	$0
Yards, Etc.		$0	$0	$0	$0
Drainage & Sediment Control		$0	$0	$0	$0
Generic Material Hauling		$0	$0	$0	$0
Other User Costs (from Other User sheet)		$0	$0	$0	$0
Other**					$0
Subtotal "B"		**$0**	**$0**	**$0**	**$0**

C. Detoxification/Water Treatment/Disposal of Wastes**		Labor (1)	Equipment (2)	Materials	Total
Process Ponds/Sludge					$0
Heaps					$0
Dumps (Waste & Landfill)					$0
Tailings					$0
Surplus Water Disposal					$0
Monitoring					$0
Miscellaneous					$0
Solid Waste - On Site		$0	$0	N/A	$0
Solid Waste - Off Site					$50,235
Hazardous Materials					$0
Hydrocarbon Contaminated Soils		$0	$0	$0	$0
Other User Costs (from Other User sheet)		$0	$0	$0	$0
Other**	**Process Fluid Management**	**$28,199,233**	**$16,880,189**	**$4,257,125**	$49,336,547
Subtotal "C"		**$28,199,233**	**$16,880,189**	**$4,257,125**	**$49,386,782**

D. Structure, Equipment and Facility Removal, and Misc.	Labor (1)	Equipment (2)	Materials	Total
Foundation & Buildings Areas	$0	$0	$0	$0
Other Demolition	$0	$0	$0	$0
Equipment Removal	$0	$0	$0	$0
Fence Removal	$0	$0		$0
Fence Installation	$0	$0	$0	$0
Culvert Removal	$0	$0	N/A	$0
Pipe Removal	$0	$0	N/A	$0

Powerline Removal	$0			$0
Transformer Removal	$0			$0
Rip-rap, rock lining, gabions	$0	$0	$0	$0
Other Misc. Costs	$0	$0	$0	$0
Other User Costs (from Other User sheet)	$0	$0	$0	$0
Other**				$0
Subtotal "D"	**$0**	**$0**	**$0**	**$0**

E. Monitoring	Labor (1)	Equipment (2)	Materials	Total
Reclamation Monitoring and Maintenance	$493,551	$1,049,058	$70,113	$1,612,722
Ground and Surface Water Monitoring	$854,825	$112,476	$97,697	$1,064,998
Other User Costs (from Other User sheet)	$0	$0	$0	$0
Subtotal "E"	**$1,348,376**	**$1,161,534**	**$167,810**	**$2,677,720**

F. Construction Management & Support	Labor	Equipment (2)	Materials	Total
Construction Management	$572,506	$111,832	N/A	$684,338
Construction Support	$0	$47,791	$0	$47,791
Road Maintenance	$309,982	$665,614	$19,879	$995,475
Other User Costs (from Other User sheet)	$0	$0	$0	$0
Other**				$0
Subtotal "F"	**$882,488**	**$825,237**	**$19,879**	**$1,727,604**

Subtotal Operational & Maintenance Costs	Labor (1)	Equipment (2)	Materials (3)	Total
Subtotal A through F	**$35,949,347**	**$29,984,843**	**$5,073,967**	**$71,058,392**

** Other Operator supplied costs - additional documentation required.

Indirect Costs		Include?	Total
1. Engineering, Design and Construction (ED&C) Plan (7)			$2,842,336
2. Contingency (8)			$2,842,336
3. Insurance (9)	$539,240		$539,240
4. Performance Bond (10)			$2,131,752
5. Contractor Profit (11)			$7,105,839
6. Contract Administration (12)			$4,263,504
7. Government Indirect Cost (13)			$895,336
Subtotal Add-On Costs			**$20,620,343**
Total Indirect Costs as % of Direct Cost			29%
GRAND TOTAL			**$91,678,735**

Administrative Cost Rates (%)	Cost Ranges for Indirect Cost Percentages				
	<=	<=	<=	>	
1. Engineering, Design and Construction (ED&C) Plan (7)	$1,000,000	$25,000,000		$25,000,000	Small Plan
Variable Rate	8%	6%		4%	0%
	<=	<=	<=	>	
2. Contingency (8)	$500,000	$5,000,000	$50,000,000	$50,000,000	Small Plan
Variable Rate	10%	8%	6%	4%	0%
3. Insurance (9)	1.5%	of labor costs			
4. Bond (10)	3.0%	of the O&M costs if O&M costs are >$100,000			
5. Contractor Profit (11)	10%	of the O&M costs			
	<=	<=	<=	>	
6. Contract Administration (12)	$1,000,000	$25,000,000		$25,000,000	
Variable Rate	10%	8%		6%	
Government Indirect Cost (13)	21%	of contract administration			

RECLAMATION COST ESTIMATION SUMMARY SHEET FOOTNOTES

NOTE :

1. Federal construction contracts require Davis-Bacon wage rates for contracts over $2,000. Wage rate estimates may include base pay, payroll loading,
2. The reclamation cost estimate must include the estimated plugging cost of at least one drill hole for each active drill rig in the project area. Where the
3. Miscellaneous items should be itemized on accompanying worksheets.
4. Fluid management should be calculated only when mineral processing activities are involved. Fluid management represents the costs of maintaining proper
5. Handling of hazardous materials includes the cost of decontaminating, neutralizing, disposing, treating and/or isolating all hazardous materials used,
6. Any mitigation measures required in the Plan of Operations must be included in the reclamation cost estimate. Mitigation may include measures to avoid,
7. Engineering, design and construction (ED&C) plans are often necessary to provide details on the reclamation needed to contract for the required work. To
8. A contingency cost is included in the reclamation cost estimation to cover unforeseen cost elements. Calculate the contingency cost as a percentage of the
9. Insurance premiums are calculated at 1.5% of the total labor costs. Enter the premium amount if liability insurance is not included in the itemized unit costs.
10. Federal construction contracts exceeding $100,000 require both a performance and a payment bond (Miller Act, 40 USC 270et seq.). Each bond premium is
11. For Federal construction contracts, use 10% of estimated O&M cost for the contractor's profit.
12. To estimate the contract administration cost, use 6 to 10% of the operational and maintenance (O&M) cost. Calculate the contract administration cost as a

Closure Cost Estimate
Heap Leach

Project Name: Rosemont Copper World Conceptual Closure Plan - Reclamation Plan
Date of Submittal: July 20, 2022
File Name: Copy of ROSEMONT Copper World SRCE_APP_Revised July 28 2022.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_1_12.xlsm
Cost Estimate Type: Surety   Cost Basis: Southern Nevada - Adjusted for Arizona

Heap Leach Pads - Cost Summary

	Labor	Equipment	Materials	Totals
Drain Installation	$1,155	$810	$5,850	$7,815
Grading Costs	$0	$0	N/A	$0
Cover Placement Cost	$0	$0	N/A	$0
Topsoil Placement Cost	$548,569	$1,363,596	N/A	$1,912,165
Ripping/Scarifying Cost	$0	$0	N/A	$0
Subtotal Earthworks	**$549,724**	**$1,364,406**	**$5,850**	**$1,919,980**
Revegetation Cost	$0	$0	$0	$0
TOTALS	**$549,724**	**$1,364,406**	**$5,850**	**$1,919,980**

Color Code Key

User Input - Direct Input	**Direct Input**
User Input - Pull Down List	**Pull Down Selection**
Program Constant (can override)	**Alternate Input**
Program Calculated Value	**Locked Cell - Formula or Reference**

Heap Leach Pads - User Input

You must fill in ALL green cells and relevant blue cells in this section for each heap, lift or heap category

	Facility Description			Physical (1) - MANDATORY									Cover				Growth Media			
	Description (required)	ID Code	Type	Underlying Ground Slope % grade	Ungraded Slope _H:1V	Final Slope _H:1V	Final Top Slope % grade	Lift (heap) Height ft	Mid-Bench Length ft	Average Flat Area Long Dimension (ripping distance) ft	Final (Regraded) Heap Footprint acres	Regrade Volume (if calculated elsewhere) cy	Cover Thickness Slopes in	Cover Thickness Flat Areas in	Distance from Cover Borrow ft	Slope from Heap to Cover Borrow % grade	Slope Growth Media Thickness in	Flat Area Growth Media Thickness in	Distance from Growth Material Stockpile ft	Slope from Heap to Stockpile % grade
1	**Rosemont Heap Leach Facility**		**Heap Leach**	**6.0**	**2.3**	**2.3**	**1.0**	**350**	**1000**	**1000**	**336.00**						**18.0**	**18.0**	**5,000**	**6.0**

Notes:
1. All Physical parameters must be input even if manual overrides for volume or area are used.
2. If Slope from facility to borrow source is >20, downhill travel time may be underestimated due to limitation of uphill travel time curves and downhill speed tables from CAT Handbook (see Productivty Sheet)

Heap Leach Pads - User Input (cont.)

You must fill in ALL green cells and relevant blue cells in this section for each heap, lift or heap category

		Grading				Cover		Growth Media		Revegetation								
	Description (required)	Regrading Material Condition (select)	Regrading Material Type (select)	Regrading Equipment Fleet (select)	Slot/ Side-by-Side (select)	Cover Material Type (select)	Cover Placement Equipment Fleet (select)	Growth Media Material Type (select)	Growth Media Equipment Fleet (select)	Seed Mix Slopes (select)	Seed Mix Flat Areas (select)	Mulch Slopes (select)	Mulch Flat Areas (select)	Fertilizer Slopes (select)	Fertilizer Flat Areas (select)	Slope Scarify/ Rip? (select)	Flat Area Scarify/ Rip? (select)	Scarifying/ Ripping Fleet (select)
1	**Rosemont Heap Leach Facility**	**1**	**LS - broken**	**Large**	**No**		**Large Truck**	**Alluvium**	**Large Truck**	**None**	**None**	**None**	**None**	**None**	**None**	**No**	**No**	**Large Dozer**

Notes:
1. Material Types are used for density correction based on material densities in Caterpillar Performance Handbook material density table

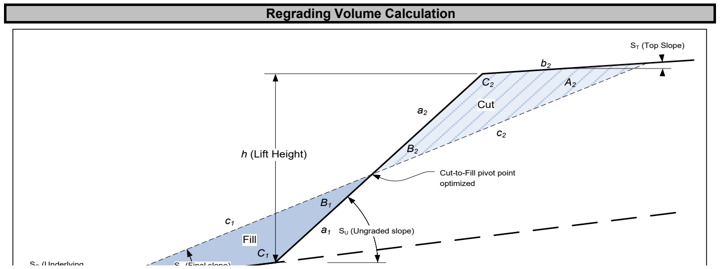
Heap Leach Pads - User Input (cont.)

		Solution Collection Ditch Fill							Piping			
	Description (required)	Collection Ditch Length ft	Collection Ditch Top Width ft	Collection Ditch Depth ft	Volume (if calculated elsewhere) cy	Distance from Borrow ft	Slope to Borrow % grade	Drain Rock Equipment Fleet (select)	Solid Pipe Length ft	Solid Pipe Type (select)	Drainage Pipe Length ft	Drainage Pipe Type (select)
1	**Rosemont Heap Leach Facility**								**1000**	**6in (150 mm) HDPE**		

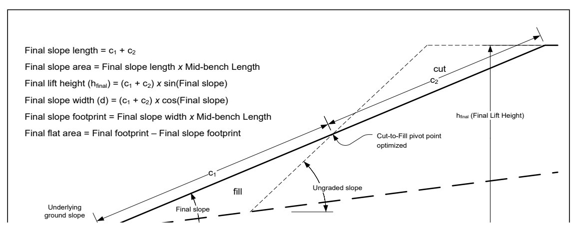
Notes:

Heap Leach Pads - Calculations

Regrading Volume Calculation



Final Slope Area and Footprint Area Calculations



RCC-CW004817

Project Name: Rosemont Copper World Conceptual Closure Plan - Reclamation Plan
Date of Submittal: July 20, 2022
File Name: Copy of ROSEMONT Copper World SRCE_APP_Revised July 28 2022.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_1_12.xlsm
Cost Estimate Type: Surety Cost Basis: Southern Nevada - Adjusted for Arizona

Heap Leach Pads - Cost Summary

	Labor	Equipment	Materials	Totals
Drain Installation	$1,155	$810	$5,850	$7,815
Grading Costs	$0	$0	N/A	$0
Cover Placement Cost	$0	$0	N/A	$0
Topsoil Placement Cost	$548,569	$1,363,596	N/A	$1,912,165
Ripping/Scarifying Cost	$0	$0	N/A	$0
Subtotal Earthworks	**$549,724**	**$1,364,406**	**$5,850**	**$1,919,980**
Revegetation Cost	$0	$0	$0	$0
TOTALS	**$549,724**	**$1,364,406**	**$5,850**	**$1,919,980**

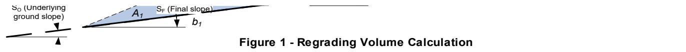


Figure 1 - Regrading Volume Calculation

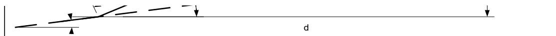


Figure 3 - Final Slope Area and Footprint Area Calculation

Regrading Push Distance Calculation

dozing distance: based on 2/3 final cut slope + 2/3 final fill slope (minimum = 50 ft)

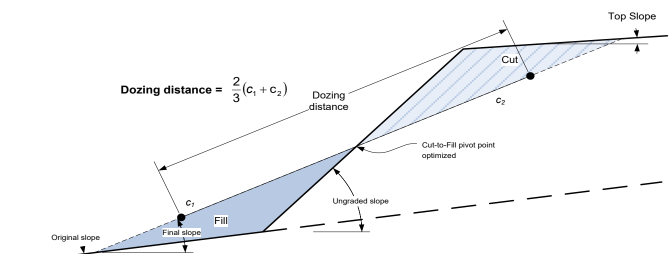


Figure 2 - Dozing Distance Calculation

Use when existing heap material is not suitable drain rock
Assume to be constructed in existing solution channels
Assume 2H:1V ditch sideslopes
Drain rock assumed to be Gravel - Dry at 2,550 lb/cy (1,510 kg/m3) from CAT Handbook 35th Ed.

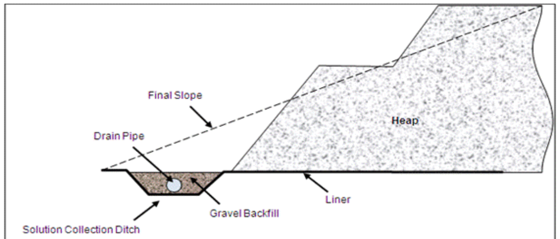


Figure 4 – Drainage Ditch Construction

Minimum 1 hr ripping/scarifying per area

Slopes:
Number of passes = Final slope length ÷ Grader width
Travel distance = Number of passes x Mid-bench length
Total hours = (Travel distance ÷ Grader productivity) + (Number of passes x Grader maneuver time)

Flat Areas:
Flat area width = Final flat area ÷ Average long dimensions
Number of passes = Flat area width ÷ Grader width
Travel distance = Number of passes x Average long dimensions
Total hours = (Travel distance ÷ Grader productivity) + (Number of passes x Grader maneuver time)

Revegetation: Minimum 1 acre revegetation crew time per area

Heap Leach Pad - Drainage Channel Fill & Drainage Pipe Installation

		Drain Rock Placement								Drainpipe Installation				
	Description (required)	Drain Rock Volume cy	Drain Rock Fleet	Fleet Productivity LCY/hr	Number of Trucks/ Scrapers	Total Fleet Hours hrs	Drainage Labor Cost $	Drainage Equipment Cost $	Total Drainage Cost $	Piping Crew Hours hrs	Piping Labor Cost $	Piping Equipment Cost $	Piping Material Cost $	Total Pipe Installation Cost $
1	Rosemont Heap Leach Facility	0					$0	$0	$0	3	$1,155	$810	$5,850	$7,815
						0	**$0**	**$0**	**$0**	3	**$1,155**	**$810**	**$5,850**	**$7,815**

Heap Leach Pad - Regrading Costs

Productivity = Dozer Productivity x Grade Correction x Density Correction x Operator (0.75) x Material x Visibility x Job Efficiency (0.83) x (Slot/Side-by-Side) x (Altitude Deration)

	Description (required)	Regrading Volume cy	Dozing Distance (see above) ft	Regrading Fleet	Uncorrected Dozer Productivity cy/hr	Grade Correction	Dozing Material	Density Correction	Side-by-Side or Slot Dozing	Total Hourly Productivity cy/hr	Total Dozer Hours hr	Total Labor Cost $	Total Equipment Cost $	Total Regrading Cost $
1	Rosemont Heap Leach Facility	0		D10R								$0	$0	$0
												$0	**$0**	**$0**

Heap Leach Pad - Cover and Growth Media Costs

		Cover (lower layer)								Growth Media Placement							
	Description (required)	Cover Volume cy	Cover Replacement Fleet	Fleet Productivity LCY/hr	Number of Trucks/ Scrapers	Total Fleet Hours	Cover Labor Cost $	Cover Equipment Cost $	Total Cover Cost $	Growth Media Volume cy	Growth Media Replacement Fleet	Fleet Productivity BCY/hr	Number of Trucks/ Scrapers	Total Fleet Hours	Total Labor Cost $	Total Equipment Cost $	Total Growth Media Cost $

RCC-CW004818

Closure Cost Estimate
Heap Leach

Project Name: Rosemont Copper World Conceptual Closure Plan - Reclamation Plan
Date of Submittal: July 20, 2022
File Name: Copy of ROSEMONT Copper World SRCE_APP_Revised July 28 2022.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_1_12.xlsm
Cost Estimate Type: Surety   Cost Basis: Southern Nevada - Adjusted for Arizona

Heap Leach Pads - Cost Summary

	Labor	Equipment	Materials	Totals
Drain Installation	$1,155	$810	$5,850	$7,815
Grading Costs	$0	$0	N/A	$0
Cover Placement Cost	$0	$0	N/A	$0
Topsoil Placement Cost	$548,569	$1,363,596	N/A	$1,912,165
Ripping/Scarifying Cost	$0	$0	N/A	$0
Subtotal Earthworks	**$549,724**	**$1,364,406**	**$5,850**	**$1,919,980**
Revegetation Cost	$0	$0	$0	$0
TOTALS	**$549,724**	**$1,364,406**	**$5,850**	**$1,919,980**

1	**Rosemont Heap Leach Facility**	0					$0	$0	$0	817,176	769D/988G/D7R	677	4	1,207	$548,569	$1,363,596	$1,912,165
							$0	**$0**	**$0**	817,176				1,207	**$548,569**	**$1,363,596**	**$1,912,165**

Heap Leach Pad - Scarifying/Revegetation Costs

	Description (required)	Slope Area acres	Flat Area acres	Total Surface Area acres	Final Slope Length ft	Flat Area Long Dimension ft	Ripping/ Scarifying Fleet	Slope Scarifying/ Ripping Hours hrs	Flat Area Scarifying/ Ripping Hours hrs	Scarifying/ Ripping Labor Costs $	Scarifying/ Ripping Equipment Cost $	Total Scarifying/ Ripping Costs $	Revegetation Labor Cost $	Revegetation Equipment Cost $	Revgetation Material Cost $	Total Revegetation Cost $
1	**Rosemont Heap Leach Facility**	20.16	317.50	337.66	878		D10R			$0	$0	$0	$0	$0	$0	$0
		20.16	317.50	337.66						**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**

1) Minimum total ripping hours = 1 (i.e. If total ripping hrs (slope + flat) < 1, then one hour of fleet time is assumed, regardless of acres shown in in scarifying table.)

Closure Cost Estimate
Tailings

Project Name: Rosemont Copper World Conceptual Closure Plan - Reclamation Plan
Date of Submittal: July 20, 2022
File Name: Copy of ROSEMONT Copper World SRCE_APP_Revised July 28 2022.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_1_12.xlsm
Cost Estimate Type: Surety Cost Basis: Southern Nevada - Adjusted for Arizona

Tailings - Cost Summary	Labor	Equipment	Materials	Totals
Embankment Regrading Cost	$0	$0	N/A	$0
Tailings Surface Grading Cost	$170,012	$690,463	N/A	$860,475
Cover Placement Cost	$0	$0	N/A	$0
Topsoil Placement Cost	$3,278,926	$8,587,687	N/A	$11,866,613
Ripping/Scarifying Cost	$0	$0	N/A	$0
Subtotal Earthworks	**$3,448,938**	**$9,278,150**	**$0**	**$12,727,088**
Revegetation Cost	$0	$0	$0	$0
TOTALS	**$3,448,938**	**$9,278,150**	**$0**	**$12,727,088**

Color Code Key	
User Input - Direct Input	Direct Input
User Input - Pull Down List	Pull Down Selection
Program Constant (can override)	Alternate Input
Program Calculated Value	Locked Cell - Formula or Reference

Tailings - User Input

You must fill in ALL green cells and relevant blue cells in this section for each tailings impoundment

	Facility Description		Physical - MANDATORY								Cover				Growth Media			
	Description (required)	ID Code	Underlying Ground Slope % Grade	Ungraded Slope _H:1V	Final (Regraded) Embankment Slope _H:1V	Final Embankment Height ft	Final Tailings Surface Area acres	Mid-Embankment or Ripping Length ft	Embankment Regrade Volume (if calculated elsewhere) cy	Surface Regrade Volume (calculated elsewhere) cy	Embankment Cover Thickness in	Tailings Surface Cover Thickness in	Distance from Cover Borrow ft	Slope from Tailings to Borrow % grade	Embankment Growth Media Thickness in	Tailings Surface Growth Media Thickness in	Distance from Growth Material Stockpile ft	Slope from Tailings to Stockpile % grade
1	**TSF - 1 Cell 1**		9.1	2.5	2.5	300	383.70	3,000		215,586					18.0	18.0	10,000	9.1
2	**TSF - 1 Cell 2**		9.1	2.5	2.5	270	316.40	2,000		177,948					18.0	18.0	8,000	9.1
3	**TSF - 1 Cell 3**		9.1	2.5	2.5	240	245.90	1,500		108,721					18.0	18.0	8,000	9.1
4	**TSF - 2 Cell 1**		8.5	2.5	2.5	215	176.00	1,000		96,177					18.0	18.0	8,000	8.5
5	**TSF - 2 Cell 2**		8.5	2.5	2.5	262	131.00	1,000		73,443					18.0	18.0	8,000	8.5

Notes:
1. All Physical parameters must be input even if manual overrides for volume or area are used.
2. If Slope from facility to borrow source is >20, downhill travel time may be underestimated due to limitation of uphill travel time curves and downhill speed tables from CAT Handbook (see Productivty Sheet)

Assumes cover material hauled from WRF or from immediately adjacent to TSF facilities
Assumes embankment constructed at final slope so no regrading required.
Assumes minor regrading of tailings surface (1 foot depth over 1/3 of tailings area) for drainage

Tailings - User Input (cont.)

You must fill in ALL green cells and relevant blue cells in this section for each tailings impoundment

		Grading				Cover		Growth Media		Revegetation								
	Description (required)	Regrading Material Condition (select)	Embankment Material Type (select)	Regrading Equipment Fleet (select)	Slot/Side-by-Side (select)	Cover Material Type (select)	Cover Placement Equipment Fleet (select)	Growth Media Material Type (select)	Growth Media Equipment Fleet (select)	Seed Mix Embankment Slope (select)	Seed Mix Tailings Surface (select)	Mulch Embankment Slopes (select)	Mulch Tailings Surface (select)	Fertilizer Embankment Slopes (select)	Fertilizer Tailing Surface (select)	Embankment Slope Scarify/ Rip? (select)	Tailings Surface Scarify/ Rip? (select)	Scarifying/ Ripping Fleet (select)
1	**TSF - 1 Cell 1**	1.2	Tailings - Coarse	Large	No			Alluvium	Large Truck	None	None	None	None	None	None	No	No	Large Dozer
2	**TSF - 1 Cell 2**	1.2	Tailings - Coarse	Large	No			Alluvium	Large Truck	None	None	None	None	None	None	No	No	Large Dozer
3	**TSF - 1 Cell 3**	1.2	Tailings - Coarse	Large	No			Alluvium	Large Truck	None	None	None	None	None	None	No	No	Large Dozer
4	**TSF - 2 Cell 1**	1.2	Tailings - Coarse	Large	No			Alluvium	Large Truck	None	None	None	None	None	None	No	No	Large Dozer
5	**TSF - 2 Cell 2**	1.2	Tailings - Coarse	Large	No			Alluvium	Large Truck	None	None	None	None	None	None	No	No	Large Dozer

Notes:
1. Material Types are used for density correction based on material densities in Caterpillar Performance Handbook material density table

Tailings - Calculations

Surface Area Calculations

Top Surface Area provided by user

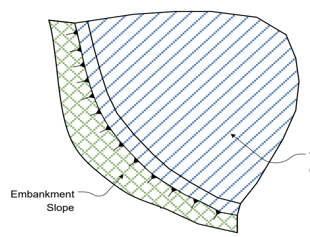


Figure 1 - Surface Areas

Final Slope Area and Footprint Area Calculations

Overall slope length (c) = Embankment height / cos(Overal l slope angle)

Grading Calculations

Grading assumed on impoundment surface only, not embankment
Average push distance assumed to be 2/3 of the 600 feet maximum from Catepillar Handbook or 400 feet
Material assumed to be loose stockile (1.2 productivity factor)
Dozing density correction based on dry sand = 2300/2400 = 0.96
Slope assumed to be 0 to 5% (1.0 productivity factor)

Ripping/Scarifying/Revegetation Calculation

Minimum 1 hr ripping/scarifying per area
Minimum 1 acre revegetation crew time per area

Regrading Volume Calculation

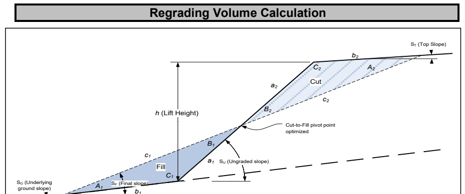


Figure 1 - Regrading Volume Calculation

Regrading Push Distance Calculation

Project Name: Rosemont Copper World Conceptual Closure Plan - Reclamation Plan
Date of Submittal: July 20, 2022
File Name: Copy of ROSEMONT Copper World SRCE_APP_Revised July 28 2022.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_1_12.xlsm
Cost Estimate Type: Surety Cost Basis: Southern Nevada - Adjusted for Arizona

Tailings - Cost Summary

	Labor	Equipment	Materials	Totals
Embankment Regrading Cost	$0	$0	N/A	$0
Tailings Surface Grading Cost	$170,012	$690,463	N/A	$860,475
Cover Placement Cost	$0	$0	N/A	$0
Topsoil Placement Cost	$3,278,926	$8,587,687	N/A	$11,866,613
Ripping/Scarifying Cost	$0	$0	N/A	$0
Subtotal Earthworks	**$3,448,938**	**$9,278,150**	**$0**	**$12,727,088**
Revegetation Cost	$0	$0	$0	$0
TOTALS	**$3,448,938**	**$9,278,150**	**$0**	**$12,727,088**

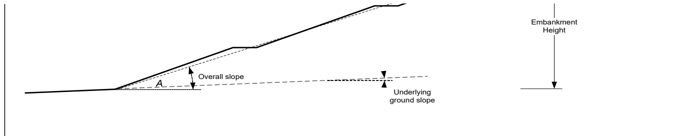


Figure 2 - Final Slope Area and Footprint Area Calculation

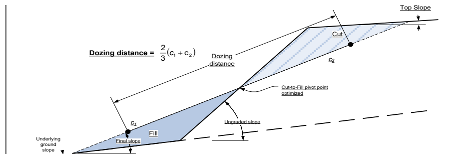


Figure 2 - Dozing Distance Calculation

Tailings - Embankment Regrading Costs

Productivity = Dozer Productivity x Grade Correction x Density Correction x Operator (0.75) x Material x Visibility x Job Efficiency (0.83) x (Slot/Side-by-Side) x (Altitude Deration)

	Description (required)	Regrading Volume cy	Dozing Distance (see above) ft	Regrading Fleet	Uncorrected Dozer Productivity cy/hr	Grade Correction	Dozing Material Condition	Density Correction	Side-by-Side or Slot Dozing	Total Hourly Productivity cy/hr	Total Dozer Hours hr	Total Labor Cost $	Total Equipment Cost $	Total Regrading Cost $
1	TSF - 1 Cell 1	0		D10R								$0	$0	$0
2	TSF - 1 Cell 2	0		D10R								$0	$0	$0
3	TSF - 1 Cell 3	0		D10R								$0	$0	$0
4	TSF - 2 Cell 1	0		D10R								$0	$0	$0
5	TSF - 2 Cell 2	0		D10R								$0	$0	$0
												$0	**$0**	**$0**

Tailings - Surface Regrading Costs

Productivity = Dozer Productivity x Grade Correction x Density Correction x Operator (0.75) x Material x Visibility x Job Efficiency (0.83) x (Slot/Side-by-Side) x (Altitude Deration)

	Description (required)	Regrading Volume cy	Dozing Distance (see above) ft	Regrading Fleet	Uncorrected Dozer Productivity cy/hr	Grade Correction	Density Correction	Dozing Material	Side-by-Side or Slot Dozing	Total Hourly Productivity cy/hr	Total Dozer Hours hr	Total Labor Cost $	Total Equipment Cost $	Total Regrading Cost $
1	TSF - 1 Cell 1	215,586	400	D10R	501	1.00	0.96	1.20	1.00	359	601	$54,553	$221,553	$276,106
2	TSF - 1 Cell 2	177,948	400	D10R	501	1.00	0.96	1.20	1.00	359	496	$45,022	$182,845	$227,867
3	TSF - 1 Cell 3	108,721	400	D10R	501	1.00	0.96	1.20	1.00	359	303	$27,503	$111,698	$139,201
4	TSF - 2 Cell 1	96,177	400	D10R	501	1.00	0.96	1.20	1.00	359	268	$24,326	$98,796	$123,122
5	TSF - 2 Cell 2	73,443	400	D10R	501	1.00	0.96	1.20	1.00	359	205	$18,608	$75,571	$94,179
		671,875									1,873	**$170,012**	**$690,463**	**$860,475**

Tailings - Cover and Growth Media Costs

		Cover Placement								Growth Media Placement							
	Description (required)	Cover Volume cy	Cover Placement Fleet	Cover Fleet Productivity LCY/hr	Number of Trucks/ Scrapers	Total Fleet Hours	Total Labor Cost $	Total Equipment Cost $	Total Cover Placement Cost $	Growth Media Volume cy	Growth Media Placement Fleet	Growth Media Fleet Productivity LCY/hr	Number of Trucks/ Scrapers	Total Fleet Hours	Total Labor Cost $	Total Equipment Cost $	Total Growth Media Cost $
1	TSF - 1 Cell 1						$0	$0	$0	1,063,227	769D/988G/D7R	747	9	1,423	$1,133,619	$2,982,451	$4,116,070
2	TSF - 1 Cell 2						$0	$0	$0	846,468	769D/988G/D7R	784	8	1,080	$786,467	$2,054,873	$2,841,340
3	TSF - 1 Cell 3						$0	$0	$0	648,923	769D/988G/D7R	784	8	828	$602,958	$1,575,402	$2,178,360
4	TSF - 2 Cell 1						$0	$0	$0	458,082	769D/988G/D7R	784	8	584	$425,275	$1,111,153	$1,536,428
5	TSF - 2 Cell 2						$0	$0	$0	356,176	769D/988G/D7R	784	8	454	$330,607	$863,808	$1,194,415
							$0	**$0**	**$0**	3,372,875				4,369	**$3,278,926**	**$8,587,687**	**$11,866,613**

Tailings - Scarifying/Revegetation Costs

	Description (required)	Embankment Slope Area acres	Tailings Surface Area acres	Total Surface Area acres	Final Slope Length ft	Ripping/ Scarifying Fleet	Slope Scarifying/ Ripping Hours hrs	Flat Area Scarifying/ Ripping Hours hrs	Scarifying/ Ripping Labor Cost $	Scarifying/ Ripping Equipment Cost $	Total Scarifying/ Ripping Cost $	Revegetation Labor Cost $	Revegetation Equipment Cost $	Revgetation Material Cost $	Total Revegetation Cost $
1	TSF - 1 Cell 1	55.65	383.70	439.35	808	D10R			$0	$0	$0	$0	$0	$0	$0
2	TSF - 1 Cell 2	33.38	316.40	349.78	727	D10R			$0	$0	$0	$0	$0	$0	$0
3	TSF - 1 Cell 3	22.25	245.90	268.15	646	D10R			$0	$0	$0	$0	$0	$0	$0
4	TSF - 2 Cell 1	13.29	176.00	189.29	579	D10R			$0	$0	$0	$0	$0	$0	$0
5	TSF - 2 Cell 2	16.18	131.00	147.18	705	D10R			$0	$0	$0	$0	$0	$0	$0
		140.75	1253.00	1,393.75					**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**

Project Name: Rosemont Copper World Conceptual Closure Plan - Reclamation Plan
Date of Submittal: July 20, 2022
File Name: Copy of ROSEMONT Copper World SRCE_APP_Revised July 28 2022.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_1_12.xlsm
Cost Estimate Type: Surety   Cost Basis: Southern Nevada - Adjusted for Arizona

Drainage Control - Cost Summary	Labor	Equipment	Materials	Totals
Diversion Ditch Construction	$13,259	$30,883	N/A	$44,142
Diversion Ditch Liner	$0	$0	$0	$0
Diversion Ditch Rip-Rap	$1,214,957	$226,696	$623,303	$2,064,956
Sed Pond Construct/Regrade	$3,270	$13,272	N/A	$16,542
Liner Installation	$0	$0	$0	$0
Sed Pond Cover	$3,258	$8,898	N/A	$12,156
Ripping/Scarifying Cost	$0	$0	N/A	$0
Subtotal Earthworks	**$1,234,744**	**$279,749**	**$623,303**	**$2,137,796**
Diversion Ditch Revegetation	$0	$0	$0	$0
Sediment Pond Revegetation	$0	$0	$0	$0
Subtotal Revegetation	**$0**	**$0**	**$0**	**$0**
TOTALS	**$1,234,744**	**$279,749**	**$623,303**	**$2,137,796**

Color Code Key	
User Input - Direct Input	Direct Input
User Input - Pull Down List	Pull Down Selection
Program Constant (can override)	Alternate Input
Program Calculated Value	Locked Cell - Formula or Reference

Diversion Ditches - User Input

			Diversions Ditches							Revegetation			Liner and Rip-Rap Installation			
	Description (required)	ID Code	Diversion Length ft	Diversion Depth ft	Ditch Bottom Width ft	Ditch Sideslope Angle _H:1V	Excavate Volume (if calculated elsewhere) cy	Excavating Material Condition (select)	Excavating Equipment Fleet (select)	Seed Mix (select)	Mulch (select)	Fertilizer (select)	Liner Area S.Y.	Liner Type (select)	Rip-Rap Area S.Y.	Rip-Rap Type (select type)
1	**Stormwater Ditch - no riprap**		**44800**	**3.0**	**6.0**	**2.0**		**1**	**Large**	**None**	**None**	**None**	**0**		**0**	
2	**Stormwater Ditch - rip rap lined**		**11200**	**3.0**	**6.0**	**2.0**		**1**	**Large**	**None**	**None**	**None**	**0**		**24,142**	**Gabions, 12 in (30**
3	**TSF1 Cell 1 Downchute**		**2500**	**3.0**	**7.0**	**3.0**		**1.2**	**Medium**	**None**	**None**	**None**	**0**		**1,950**	**Gabions, 36 in (1r**
4	**TSF1 Cell 2 Downchute**		**2500**	**3.0**	**7.0**	**3.0**		**1.2**	**Medium**	**None**	**None**	**None**	**0**		**1,950**	**Gabions, 36 in (1r**
5	**TSF1 Cell 3 Downchute**		**2500**	**3.0**	**7.0**	**3.0**		**1.2**	**Medium**	**None**	**None**	**None**	**0**		**1,950**	**Gabions, 36 in (1r**
6	**TSF2 Cell 1 Downchute**		**2000**	**3.0**	**7.0**	**3.0**		**1.2**	**Medium**	**None**	**None**	**None**	**0**		**1,560**	**Gabions, 36 in (1r**
7	**TSF2 Cell 2 Downchute**		**2000**	**3.0**	**7.0**	**3.0**		**1.2**	**Medium**	**None**	**None**	**None**	**0**		**1,560**	**Gabions, 36 in (1r**

Notes:
Riprap assumes bottom and sides of ditch covered

Sediment/Evaporation Pond Construction/Removal - User Input

			Sediment Ponds								Growth Media		
	Description (required)	ID Code	Pond Width ft	Pond/Berm Length ft	Berm Height ft	Crest Width ft	Sideslope Angle _H:1V	Final Area (if calculated elsewhere) acres	Regrade Volume (if calculated elsewhere) cy	Cover Volume (if calculated elsewhere) cy	Growth Media Thickness in	Distance from Growth Media Stockpile ft	Slope from Pond to Borrow % grade
1	**Retention Pond 1**		**100**	**300**	**10.0**	**17.0**	**2.0**				**12**	**500**	**5.0**
2	**Retention Pond 2**		**100**	**300**	**10.0**	**17.0**	**2.0**				**12**	**500**	**5.0**
3	**Retention Pond 3**		**100**	**300**	**10.0**	**17.0**	**2.0**				**12**	**500**	**5.0**
4	**Retention Pond 4**		**100**	**300**	**10.0**	**17.0**	**2.0**				**12**	**500**	**5.0**
5	**Retention Pond 5**		**100**	**300**	**10.0**	**17.0**	**2.0**				**12**	**500**	**5.0**
6	**Retention Pond 6**		**100**	**300**	**10.0**	**17.0**	**2.0**				**12**	**500**	**5.0**

Notes:
1. All Physical parameters must be input even if manual overrides for volume or area are used.
2. If Slope from facility to borrow source is >20, downhill travel time may be underestimated due to limitation of uphill travel time curves and downhill speed tables from CAT Handbook (see Productivty Sheet)
3. Material Types are used for density correction based on material densities in Caterpillar Performance Handbook material density table

Berm dimensions assume all material removed for pond is used for berm construction

Sediment/Evaporation Pond Construction/Removal - User Input (cont.)

		Sediment Ponds				Growth Media			Revegetation			Ripping/Scarifying	
	Description (required)	Excavating Material Condition	Material Type	Excavating Equipment Fleet	Liner Type	Growth Media Material Type	Growth Media Placement Equipment Fleet	Maximum Fleet Size (user override)	Seed Mix	Mulch	Fertilizer	Scarify/ Rip?	Scarify/ Ripping Fleet

Project Name: Rosemont Copper World Conceptual Closure Plan - Reclamation Plan
Date of Submittal: July 20, 2022
File Name: Copy of ROSEMONT Copper World SRCE_APP_Revised July 28 2022.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_1_12.xlsm
Cost Estimate Type: Surety **Cost Basis: Southern Nevada - Adjusted for Arizona**

Drainage Control - Cost Summary

	Labor	Equipment	Materials	Totals
Diversion Ditch Construction	$13,259	$30,883	N/A	$44,142
Diversion Ditch Liner	$0	$0	$0	$0
Diversion Ditch Rip-Rap	$1,214,957	$226,696	$623,303	$2,064,956
Sed Pond Construct/Regrade	$3,270	$13,272	N/A	$16,542
Liner Installation	$0	$0	$0	$0
Sed Pond Cover	$3,258	$8,898	N/A	$12,156
Ripping/Scarifying Cost	$0	$0	N/A	$0
Subtotal Earthworks	**$1,234,744**	**$279,749**	**$623,303**	**$2,137,796**
Diversion Ditch Revegetation	$0	$0	$0	$0
Sediment Pond Revegetation	$0	$0	$0	$0
Subtotal Revegetation	**$0**	**$0**	**$0**	**$0**
TOTALS	**$1,234,744**	**$279,749**	**$623,303**	**$2,137,796**

		(select)	(select)	(select)	(select)	(select)	(select)		(select)	(select)	(select)	(select)	(select)
1	**Retention Pond 1**	**1**	**Alluvium**	**Large**		**Alluvium**	**Scraper Dozer**		**None**	**None**	**None**	**No**	**Large Dozer**
2	**Retention Pond 2**	**1**	**Alluvium**	**Large**		**Alluvium**	**Scraper Dozer**		**None**	**None**	**None**	**No**	**Large Dozer**
3	**Retention Pond 3**	**1**	**Alluvium**	**Large**		**Alluvium**	**Scraper Dozer**		**None**	**None**	**None**	**No**	**Large Dozer**
4	**Retention Pond 4**	**1**	**Alluvium**	**Large**		**Alluvium**	**Scraper Dozer**		**None**	**None**	**None**	**No**	**Large Dozer**
5	**Retention Pond 5**	**1**	**Alluvium**	**Large**		**Alluvium**	**Scraper Dozer**		**None**	**None**	**None**	**No**	**Large Dozer**
6	**Retention Pond 6**	**1**	**Alluvium**	**Large**		**Alluvium**	**Scraper Dozer**		**None**	**None**	**None**	**No**	**Large Dozer**

Notes:
1. Material Types are used for density correction based on material densities in Caterpillar Performance Handbook material density table

Drainage Control - Calculations

Diversion Ditch Volume Calculation

Cross Sectional Area = $\frac{(a+b)}{2} \times d$

Ditch Volume = Ditch Length x Cross Sectional Area

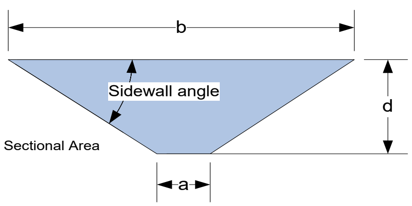
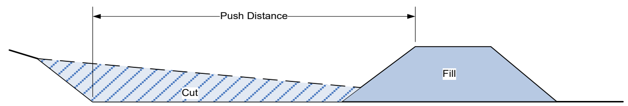


Figure 1 - Ditch Volume Calculation

1) Assume 20% swell for excavations
2) Assumes heavy duty trenching bucket is used

Sediment/Evaporation Pond Construction Calculation



Cut = Fill
Push distance = pond width up to 2/3 max push distance (400 ft)

Figure 2 - Sediment Ponds

1) Assume balanced cut-to-fill for berm construction
2) Include cost for liner, if required.
3) Include line items for removal, if necessary.
4) Assume 20% swell for excavations
5) Minimum 1 hr ripping/scarifying per area
6) Minimum 1 acre revegetation crew time per area

Diversion Ditches - Excavation Costs

	Description (required)	Diversion Ditch Volume LCY	Diversion Ditch Equipment	Corrected Excavator Productivity LCY/hr	Total Hours	Diversion Ditch Labor Cost $	Diversion Ditch Equipment Cost $	Total Diversion Ditch Cost $	Liner Installation: Total Labor Cost $	Total Equipment Cost $	Total Material Cost $	Total Liner Cost $	Rip-Rap Installation: Labor Cost $	Equipment Cost $	Material Cost $	Total Cost $
1	**Stormwater Ditch - no riprap**	71,680	385BL	935	77	$6,945	$18,545	$25,490	$0	$0	$0	$0	$0	$0	$0	$0
2	**Stormwater Ditch - rip rap lined**	17,920	385BL	935	19	$1,714	$4,576	$6,290	$0	$0	$0	$0	$623,834	$116,365	$345,233	$1,085,432
3	**TSF1 Cell 1 Downchute**	5,333	345B	480	11	$992	$1,674	$2,666	$0	$0	$0	$0	$128,505	$23,985	$60,450	$212,940
4	**TSF1 Cell 2 Downchute**	5,333	345B	480	11	$992	$1,674	$2,666	$0	$0	$0	$0	$128,505	$23,985	$60,450	$212,940
5	**TSF1 Cell 3 Downchute**	5,333	345B	480	11	$992	$1,674	$2,666	$0	$0	$0	$0	$128,505	$23,985	$60,450	$212,940
6	**TSF2 Cell 1 Downchute**	4,267	345B	480	9	$812	$1,370	$2,182	$0	$0	$0	$0	$102,804	$19,188	$48,360	$170,352
7	**TSF2 Cell 2 Downchute**	4,267	345B	480	9	$812	$1,370	$2,182	$0	$0	$0	$0	$102,804	$19,188	$48,360	$170,352
		114,133			147	**$13,259**	**$30,883**	**$44,142**	**$0**	**$0**	**$0**	**$0**	**$1,214,957**	**$226,696**	**$623,303**	**$2,064,956**

Notes: LCM assumes 20% swell from ditch volume

Diversion Ditches - Revegetation Costs

Project Name: Rosemont Copper World Conceptual Closure Plan - Reclamation Plan
Date of Submittal: July 20, 2022
File Name: Copy of ROSEMONT Copper World SRCE_APP_Revised July 28 2022.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_1_12.xlsm
Cost Estimate Type: Surety Cost Basis: Southern Nevada - Adjusted for Arizona

Drainage Control - Cost Summary

	Labor	Equipment	Materials	Totals
Diversion Ditch Construction	$13,259	$30,883	N/A	$44,142
Diversion Ditch Liner	$0	$0	$0	$0
Diversion Ditch Rip-Rap	$1,214,957	$226,696	$623,303	$2,064,956
Sed Pond Construct/Regrade	$3,270	$13,272	N/A	$16,542
Liner Installation	$0	$0	$0	$0
Sed Pond Cover	$3,258	$8,898	N/A	$12,156
Ripping/Scarifying Cost	$0	$0	N/A	$0
Subtotal Earthworks	**$1,234,744**	**$279,749**	**$623,303**	**$2,137,796**
Diversion Ditch Revegetation	$0	$0	$0	$0
Sediment Pond Revegetation	$0	$0	$0	$0
Subtotal Revegetation	**$0**	**$0**	**$0**	**$0**
TOTALS	**$1,234,744**	**$279,749**	**$623,303**	**$2,137,796**

	Description (required)	Surface Area acres	Revegetation Labor Cost $	Revegetation Equipment Cost $	Revgetation Material Cost $	Total Revegetation Cost $
1	**Stormwater Ditch - no riprap**	20.00	$0	$0	$0	$0
2	**Stormwater Ditch - rip rap lined**	5.00	$0	$0	$0	$0
3	**TSF1 Cell 1 Downchute**	1.50	$0	$0	$0	$0
4	**TSF1 Cell 2 Downchute**	1.50	$0	$0	$0	$0
5	**TSF1 Cell 3 Downchute**	1.50	$0	$0	$0	$0
6	**TSF2 Cell 1 Downchute**	1.20	$0	$0	$0	$0
7	**TSF2 Cell 2 Downchute**	1.20	$0	$0	$0	$0
		31.90	**$0**	**$0**	**$0**	**$0**

Sediment/Evaporation Ponds - Construction/Regrading Costs

Productivity = Dozer Productivity x Grade Correction x Density Correction x Operator (0.75) x Material x Visibility x Job Efficiency (0.83)

											Earthwork			Liner			
	Description (required)	Regrading Volume cy	Sed/Evap Pond Equipment	Dozing Distance (see above) ft	Uncorrected Dozer Productivity LCY/hr	Grade Correction	Density Correction	Excavating Material	Corrected Productivity LCY/hr	Total Dozer Hours hr	Total Labor Cost $	Total Equipment Cost $	Total Constr/ Regrading Cost $	Total Labor Cost $	Total Equipment Cost $	Total Material Cost $	Total Liner Cost $
1	**Retention Pond 1**	4,933	D10R	100	1,627	1.00	0.79	1.00	800	6	$545	$2,212	$2,757	$0	$0	$0	$0
2	**Retention Pond 2**	4,933	D10R	100	1,627	1.00	0.79	1.00	800	6	$545	$2,212	$2,757	$0	$0	$0	$0
3	**Retention Pond 3**	4,933	D10R	100	1,627	1.00	0.79	1.00	800	6	$545	$2,212	$2,757	$0	$0	$0	$0
4	**Retention Pond 4**	4,933	D10R	100	1,627	1.00	0.79	1.00	800	6	$545	$2,212	$2,757	$0	$0	$0	$0
5	**Retention Pond 5**	4,933	D10R	100	1,627	1.00	0.79	1.00	800	6	$545	$2,212	$2,757	$0	$0	$0	$0
6	**Retention Pond 6**	4,933	D10R	100	1,627	1.00	0.79	1.00	800	6	$545	$2,212	$2,757	$0	$0	$0	$0
		29,598								36	**$3,270**	**$13,272**	**$16,542**	**$0**	**$0**	**$0**	**$0**

Sediment/Evaporation Ponds - Growth Media Costs

		Growth Media							
	Description (required)	Growth Media Volume cy	Growth Media Fleet	Fleet Productivity LCY/hr	Number of Trucks/ Scrapers	Total Fleet Hours	Total Labor Cost $	Total Equipment Cost $	Total Cover Placement Cost $
1	**Retention Pond 1**	1,775	631G/D10R/D7R	802	1	2	$543	$1,483	$2,026
2	**Retention Pond 2**	1,775		802	1	2	$543	$1,483	$2,026
3	**Retention Pond 3**	1,775		802	1	2	$543	$1,483	$2,026
4	**Retention Pond 4**	1,775	631G/D10R/D7R	802	1	2	$543	$1,483	$2,026
5	**Retention Pond 5**	1,775	631G/D10R/D7R	802	1	2	$543	$1,483	$2,026
6	**Retention Pond 6**	1,775	631G/D10R/D7R	802	1	2	$543	$1,483	$2,026
		10,650				12	**$3,258**	**$8,898**	**$12,156**

Sediment/Evaporation Ponds - Revegetation Costs

	Description (required)	Surface Area acres	Long Ripping Distance ft	Ripping/ Scarifying Fleet	Scarifying/ Ripping Hours hrs	Scarifying/ Ripping Labor Costs $	Scarifying/ Ripping Equipment Cost $	Total Scarifying/ Ripping Costs $	Revegetation Labor Cost $	Revegetation Equipment Cost $	Revgetation Material Cost $	Total Revegetation Cost $
1	**Retention Pond 1**	1.10	300	D10R		$0	$0	$0	$0	$0	$0	$0
2	**Retention Pond 2**	1.10	300	D10R		$0	$0	$0	$0	$0	$0	$0
3	**Retention Pond 3**	1.10	300	D10R		$0	$0	$0	$0	$0	$0	$0
4	**Retention Pond 4**	1.10	300	D10R		$0	$0	$0	$0	$0	$0	$0
5	**Retention Pond 5**	1.10	300	D10R		$0	$0	$0	$0	$0	$0	$0
6	**Retention Pond 6**	1.10	300	D10R		$0	$0	$0	$0	$0	$0	$0
		6.60			0	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**	**$0**

Closure Cost Estimate
Process Ponds

Project Name: Rosemont Copper World Conceptual Closure Plan - Reclamation Plan
Date of Submittal: July 20, 2022
File Name: Copy of ROSEMONT Copper World SRCE_APP_Revised July 28 2022.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_1_12.xlsm
Cost Estimate Type: Surety Cost Basis: Southern Nevada - Adjusted for Arizona

Process Ponds - Cost Summary

	Labor	Equipment	Materials	Totals
Backfilling Costs	$59,089	$177,586	N/A	$236,675
Growth Media Placement Costs	$3,773	$9,080	N/A	$12,853
Liner Cutting & Folding Costs	$21,728	$8,912	N/A	$30,640
Subtotal Earthworks	**$84,590**	**$195,578**	**$0**	**$280,168**
Revegetation Costs	$0	$0	$0	$0
TOTALS	**$84,590**	**$195,578**	**$0**	**$280,168**

Color Code Key

User Input - Direct Input	**Direct Input**
User Input - Pull Down List	**Pull Down Selection**
Program Constant (can override)	**Alternate Input**
Program Calculated Value	**Locked Cell - Formula or Reference**

Process Ponds - User Input

You must fill in ALL green cells and relevant blue cells in this section for each pond

	Facility Description		Pond Dimensions (1)					Backfill - (If trucks are used) (1)				Growth Media		
	Description (required)	ID Code	Pond Length ft	Pond Width ft	Pond Depth ft	Pond Sideslope Angle _H:1V	Disturbed Area (if calculated elsewhere) acres	Percent Backfill (100% if blank)	Distance from Backfill Borrow ft	Slope from Facility to Borrow Area % grade	Pond Volume (if calculated elsewhere) cy	Growth Media Thickness in	Distance from Growth Media Stockpile ft	Slope from Facility to Stockpile % grade
1	Reclaim Pond		300	200	20.0	3.0		100%	500	8%		6	7,000	8%
2	Raffinate Pond		300	200	20.0	3.0		100%	500	8%		6	7,000	8%
3	Process Area Stormwater Pond		300	200	20.0	3.0		100%	500	8%		6	7,000	8%
4	Primary Settling Pond		500	400	20.0	3.0		40%	500	8%		0		
5	Pregnant Solution Pond		300	200	20.0	3.0		40%	500	8%		0		
6	HLF North Stormwater Pond		300	200	20.0	3.0		40%	500	8%		0		
7	HLF South Stormwater Pond		300	200	20.0	3.0		100%	500	8%		6	10,000	8%

Notes:
1. All Physical parameters must be input even if manual overrides for volume or area are used.
2. If Slope from facility to borrow source is >20, downhill travel time may be underestimated due to limitation of uphill travel time curves and downhill speed tables from CAT Handbook (see Productivty Sheet)

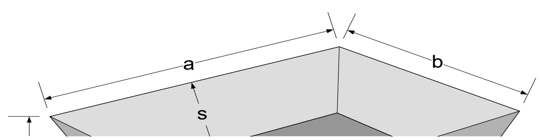
Process Ponds - User Input (cont.)

		Liner	Backfill			Growth Media			Revegetation		
	Description (required)	Crew Cut & Fold Time (2) hrs	Backfill Material Type (select)	Backfill Equipment Fleet (select)	Maximum Fleet Size (user override)	Growth Media Material Type (select)	Growth Media Placement Equipment Fleet (select)	Maximum Fleet Size (user override)	Seed Mix (select)	Mulch (select)	Fertilizer (select)
1	Reclaim Pond	24.0	Alluvium	Med Dozer		Alluvium	Med Truck		None	None	None
2	Raffinate Pond	24.0	Alluvium	Med Dozer		Alluvium	Med Truck		None	None	None
3	Process Area Stormwater Pond	24.0	Alluvium	Med Dozer		Alluvium	Med Truck		None	None	None
4	Primary Settling Pond		Gravel	Med Dozer					None	None	None
5	Pregnant Solution Pond		Gravel	Med Dozer					None	None	None
6	HLF North Stormwater Pond		Gravel	Med Dozer					None	None	None
7	HLF South Stormwater Pond	24.0	Alluvium	Med Dozer		Alluvium	Med Truck		None	None	None

Notes:
1. Material Types are used for density correction based on material densities in Caterpillar Performance Handbook material density table
(2) Pond liner removal crew (2Clab + excavator) = 2 General Laborers + 325C Excavator

Process Ponds - Calculations

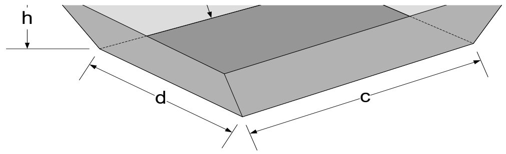
Pond Volume Calculation



Project Name: Rosemont Copper World Conceptual Closure Plan - Reclamation Plan
Date of Submittal: July 20, 2022
File Name: Copy of ROSEMONT Copper World SRCE_APP_Revised July 28 2022.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_1_12.xlsm
Cost Estimate Type: Surety Cost Basis: Southern Nevada - Adjusted for Arizona

Process Ponds - Cost Summary

	Labor	Equipment	Materials	Totals
Backfilling Costs	$59,089	$177,586	N/A	$236,675
Growth Media Placement Costs	$3,773	$9,080	N/A	$12,853
Liner Cutting & Folding Costs	$21,728	$8,912	N/A	$30,640
Subtotal Earthworks	**$84,590**	**$195,578**	**$0**	**$280,168**
Revegetation Costs	$0	$0	$0	$0
TOTALS	**$84,590**	**$195,578**	**$0**	**$280,168**



Area and Volume of the Frustrum of a Pyramid

$$\text{Surface Area} = ab + cd + (a+b+c+d) \times \frac{s}{2}$$

$$\text{Volume} = \frac{h\,(ab + cd + \sqrt{abcd}\,)}{3}$$

Revegetation Calculations

Minimum 1 acre revegetation crew time per area

Process Ponds - Liner Cutting and Folding

	Description (required)	Crew Hours hrs	Total Labor Cost $	Total Equipment Cost $	Total Liner Removal Cost $
1	**Reclaim Pond**	24	$5,432	$2,228	$7,660
2	**Raffinate Pond**	24	$5,432	$2,228	$7,660
3	**Process Area Stormwater Pond**	24	$5,432	$2,228	$7,660
4	**Primary Settling Pond**		$0	$0	$0
5	**Pregnant Solution Pond**		$0	$0	$0
6	**HLF North Stormwater Pond**		$0	$0	$0
7	**HLF South Stormwater Pond**	24	$5,432	$2,228	$7,660
		96	**$21,728**	**$8,912**	**$30,640**

Process Ponds - Backfill and Growth Media Costs

Pond Backfill

	Description (required)	Backfill Volume cy	Backfill Fleet	Fleet Productivity LCY/hr	Number of Trucks/ Scrapers	Total Fleet Hours hrs	Total Labor Cost $	Total Equipment Cost $	Total Backfill Cost $
1	**Reclaim Pond**	25,628	D9R	300		85	$7,715	$23,187	$30,902
2	**Raffinate Pond**	25,628	D9R	300		85	$7,715	$23,187	$30,902
3	**Process Area Stormwater Pond**	25,628	D9R	300		85	$7,715	$23,187	$30,902
4	**Primary Settling Pond**	44,669	D9R	178		251	$22,783	$68,470	$91,253
5	**Pregnant Solution Pond**	10,251	D9R	342		30	$2,723	$8,184	$10,907
6	**HLF North Stormwater Pond**	10,251	D9R	342		30	$2,723	$8,184	$10,907
7	**HLF South Stormwater Pond**	25,628	D9R	300		85	$7,715	$23,187	$30,902
		167,683				651	**$59,089**	**$177,586**	**$236,675**

Growth Media

	Description (required)	Growth Media Volume cy	Growth Media Fleet	Fleet Productivity LCY/hr	Number of Trucks/ Scrapers	Total Fleet Hours	Total Labor Cost $	Total Equipment Cost $	Total Growth Media Cost $
1	**Reclaim Pond**	1,111	740/988G/D8R	548	4	2	$909	$2,188	$3,097
2	**Raffinate Pond**	1,111	740/988G/D8R	548	4	2	$909	$2,188	$3,097
3	**Process Area Stormwater Pond**	1,111	740/988G/D8R	548	4	2	$909	$2,188	$3,097
4	**Primary Settling Pond**						$0	$0	$0
5	**Pregnant Solution Pond**						$0	$0	$0
6	**HLF North Stormwater Pond**						$0	$0	$0
7	**HLF South Stormwater Pond**	1,111	740/988G/D8R	560	5	2	$1,046	$2,516	$3,562
		4,444				8	**$3,773**	**$9,080**	**$12,853**

Process Ponds - Revegetation Costs

	Description (required)	Surface Area acres	Revegetation Labor Cost $	Revegetation Equipment Cost $	Revgetation Material Cost $	Total Revegetation Cost $
1	**Reclaim Pond**	1.40	$0	$0	$0	$0
2	**Raffinate Pond**	1.40	$0	$0	$0	$0

RCC-CW004826

Project Name: Rosemont Copper World Conceptual Closure Plan - Reclamation Plan
Date of Submittal: July 20, 2022
File Name: Copy of ROSEMONT Copper World SRCE_APP_Revised July 28 2022.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_1_12.xlsm
Cost Estimate Type: Surety **Cost Basis: Southern Nevada - Adjusted for Arizona**

Process Ponds - Cost Summary	Labor	Equipment	Materials	Totals
Backfilling Costs	$59,089	$177,586	N/A	$236,675
Growth Media Placement Costs	$3,773	$9,080	N/A	$12,853
Liner Cutting & Folding Costs	$21,728	$8,912	N/A	$30,640
Subtotal Earthworks	**$84,590**	**$195,578**	**$0**	**$280,168**
Revegetation Costs	$0	$0	$0	$0
TOTALS	**$84,590**	**$195,578**	**$0**	**$280,168**

3	**Process Area Stormwater Pond**	1.40	$0	$0	$0	$0
4	**Primary Settling Pond**	4.60	$0	$0	$0	$0
5	**Pregnant Solution Pond**	1.40	$0	$0	$0	$0
6	**HLF North Stormwater Pond**	1.40	$0	$0	$0	$0
7	**HLF South Stormwater Pond**	1.40	$0	$0	$0	$0
		13.00	**$0**	**$0**	**$0**	**$0**

Project Name: Rosemont Copper World Conceptual Closure Plan - Reclamation Plan
Date of Submittal: July 20, 2022
File Name: Copy of ROSEMONT Copper World SRCE_APP_Revised July 28 2022.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_1_12.xlsm
Cost Estimate Type: Surety **Cost Basis: Southern Nevada - Adjusted for Arizona**

Waste Disposal - Cost Summary

	Labor	Equipment	Fees	Totals
Solid Waste - On Site	$0	$0	N/A	$0
Solid Waste - Off Site				$50,235
Hazardous Materials				$0
Hydrocarbon Contaminated Soils	$0	$0	$0	$0
TOTALS	**$0**	**$0**	**$0**	**$50,235**

Color Code Key

User Input - Direct Input	**Direct Input**
User Input - Pull Down List	**Pull Down Selection**
Program Constant (can override)	**Alternate Input**
Program Calculated Value	**Locked Cell - Formula or Reference**

Waste Disposal - User Input - Solid Waste

						Landfill (Bulk) Disposal			Dumpster
	Description (required)	**ID Code**	**Waste Type** (select)	**Disposal Method** (select)	**Quantity** cy	**Distance to Landfill** ft	**Slope to Landfill** % grade	**Number of Trucks** (user override)	**Months Dumpster Rental** months
1	**Solid Waste Removal**		**Waste Mgmt & Disposal**	**Dumpster**	**1,000**				**12**

Notes:
1. All Physical parameters must be input even if manual overrides for volume or area are used.
2. If Slope from facility to borrow source is >20, downhill travel time may be underestimated due to limitation of uphill travel time curves and downhill speed tables from CAT Handbook (see Productivty Sheet)

Waste Disposal - User Input - Hazardous Materials

	Description (required)	**ID Code**	**Waste Type** (select)	**Container Type** (select)	**Vacuum Truck Size** (select)	**Liquid Quantity** gallons	**Soild Quantity** cy	**One Way Travel Distance to Disposal Site** mi	**One Way Travel Time to Disposal Site** hr

Notes:
1. Use Other Demo & Equip Removal Sheet for tank removal

Waste Disposal - User Input - Hydrocarbon Contaminated Soils

	Description (required)	**ID Code**	**Waste Type** (select)	**Disposal Method** (select)	**Quantity** cy	**Travel Distance to Offsite Disposal** mi

Notes:
1. Use Yards or Landfills Sheets for bioremediation facility reclamation

Waste Disposal - Assumptions & Calculations

Solid Waste Disposal

Off site disposal assumes use of average rolloff dumpster [30 cy (m3), 10 ton (tonne)]
On site disposal assumes use of small loader/truck fleet for haulage
Average density for on site disposal = 2,600 lb/cy (1,540 kg/m3)
For on site disposal only 1 truck is required unless total truck hours > 8, only 2 trucks unless total truck hours are > 16

Closure Cost Estimate
Waste Disposal

Project Name: Rosemont Copper World Conceptual Closure Plan - Reclamation Plan
Date of Submittal: July 20, 2022
File Name: Copy of ROSEMONT Copper World SRCE_APP_Revised July 28 2022.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_1_12.xlsm
Cost Estimate Type: Surety Cost Basis: Southern Nevada - Adjusted for Arizona

Waste Disposal - Cost Summary

	Labor	Equipment	Fees	Totals
Solid Waste - On Site	$0	$0	N/A	$0
Solid Waste - Off Site				$50,235
Hazardous Materials				$0
Hydrocarbon Contaminated Soils	$0	$0	$0	$0
TOTALS	**$0**	**$0**	**$0**	**$50,235**

Hazardous Materials Disposal

Assumes all hazardous materials are known
Enter EITHER solid or liquid quantity each line.
If container type = 55 gallon (200 liter) drum then solid waste hauling costs apply
Average density for solids assumed to be 2,600 lb/cy (1,540 kg/m3)
Vacuum truck sizes: small = 2,200 gal (~8,300 litres), large = 5,000 gal (~19,000 litres)
Vacuum truck on site for 4 hours for each load

Hydrocarbon Contaminated Soils Disposal

Assumes all hazardous materials are known
On site disposal assumes biopad treatment
Exavation productivity =45 cy./hr (35 m3/hr) (Means Heavy Construction, 2006: 02315-424-0360)

Waste Disposal - Solid Waste Disposal

	Description (required)	Waste Volume cy	Number of Off Site Dumpster Loads	Landfill Fleet Equipment	Landfill Fleet Productivity LCY/hr	Number of Trucks	Total Fleet Hours	Total Dumpster Cost $	Total Labor Cost $	Total Equipment Cost $	Total Waste Disposal Cost $
1	**Solid Waste Removal**	1,000	34					$50,235	$0	$0	$0
		1,000						**$50,235**	**$0**	**$0**	**$0**

Waste Disposal - Hazardous Materials Disposal

	Description (required)	Liquid Waste Volume gallons	Solid Waste Volume cy	Number of Truck Loads	Tons of Waste Tons	Pick-up Fees $	Transport Fees $	Disposal Fees $	Total Hazardous Material Cost $
						$0	**$0**	**$0**	**$0**

Waste Disposal - Hydrocarbon Contaminated Soils

	Description (required)	Quantity cy	Disposal Equipment Fleet	Total Fleet Hours	Treatment Cost $	Transport Fees $	Disposal Fees $	Total Labor Cost $	Total Equipment Cost $	Total Waste Disposal Cost $
					$0	**$0**	**$0**	**$0**	**$0**	**$0**

Project Name: Rosemont Copper World Conceptual Closure Plan - Reclamation Plan
Date of Submittal: July 20, 2022
File Name: Copy of ROSEMONT Copper World SRCE_APP_Revised July 28 2022.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_1_12.xlsm
Cost Estimate Type: Surety Cost Basis: Southern Nevada - Adjusted for Arizona

Reclamation Monitoring & Maintenance - Cost Summary

	Labor	Equipment	Lab & Materials	Totals
Revegetation Maintenance	$24,961	$8,915	$70,113	$103,989
Erosion Maintenance	$344,998	$1,034,993	N/A	$1,379,991
Reclamation Monitoring	$123,592	$5,150	N/A	$128,742
Subtotal Reclamation Monitoring	**$493,551**	**$1,049,058**	**$70,113**	**$1,612,722**
Water Quality Monitoring	$854,825	$112,476	$97,697	$1,064,998
TOTAL MONITORING	**$1,348,376**	**$1,161,534**	**$167,810**	**$2,677,720**

Reclamation Maintenance

Description	Total Revegetation Surface Area (1,2) acres	% Area Requiring Reseeding	Seed Mix (select)	Area Requiring Reseeding acres	Seed $/acres	Labor $/acres	Equipment $/acres	Totals $
Revegetation Maintenance	1,783	**10%**	**Mix 4**	178.3	$393.25	$140.00	$50.00	
Labor								$24,961
Equipment								$8,915
Materials								$70,113
Cost/Acre								$583
							Subtotal	**$103,989**

Notes: 1) Surface area is NOT the same as footprint disturbance area typically used for permitting purposes.

	Total Volume Growth Media cy	% Volume Requiring Maintenance	Average Growth Media Placement Cost $/CY	Volume Requiring Replacement cy		Labor (assume: 25%) $/acres	Equipment (assume: 75%) $/acres	Total $
Erosion Maintenance	4,194,495	**10%**	$3.29	419,450		$344,998.00	$1,034,993.00	$1,379,991

Notes:

Reclamation Monitoring

Description	Hrs/Day	Days/Year	Number of Years	Rate $/hr	
Field Work					
Field Geologist/Engineer	**8**	**8**	**5**	$162.04	$51,853
Range Scientist	**8**	**8**	**5**	$146.94	$47,021
Reporting					
Field Geologist/Engineer	**4**	**4**	**5**	$162.04	$12,963
Range Scientist	**4**	**4**	**5**	$146.94	$11,755
				Subtotal	**$123,592**
Travel					
	Hrs/Trip hr	Trips/Year	Years	Truck Cost $/hr	
Travel	**4**	**8**	**5**	$32.19	$5,150
				Subtotal	**$5,150**
				Total Reclamation Monitoring	**$128,742**

Notes: **Monitoring assumes 1 Field Geologist/Engineer and 1 Range scientist per trip, 4 trips per year, 2 days each trip**
Travel data assumes 1 trucks per trip, half day for travel each way, 4 trips per year

Water and Rock Sample Analysis

Description	Samples #	Events/Year	No. Years	First Sample Year closure year (1-100)	No. of Samplers	Days/Event	Hrs/Day	Analysis Cost $/sample	Supplies $/sample	Lab Cost $	Material Cost $	Equipment Cost $	Labor Cost $	Cost $	Comments
Water Analysis (Profile I) (1)	**9**	**4**	**3**	**1**	**9**	**3**	**10**	$411.00	$6.51	$44,388	$703	$49,338	$394,535	$488,964	

Project Name: Rosemont Copper World Conceptual Closure Plan - Reclamation Plan
Date of Submittal: July 20, 2022
File Name: Copy of ROSEMONT Copper World SRCE_APP_Revised July 28 2022.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_1_12.xlsm
Cost Estimate Type: Surety   Cost Basis: Southern Nevada - Adjusted for Arizona

Reclamation Monitoring & Maintenance - Cost Summary

	Labor	Equipment	Lab & Materials	Totals
Revegetation Maintenance	$24,961	$8,915	$70,113	$103,989
Erosion Maintenance	$344,998	$1,034,993	N/A	$1,379,991
Reclamation Monitoring	$123,592	$5,150	N/A	$128,742
Subtotal Reclamation Monitoring	**$493,551**	**$1,049,058**	**$70,113**	**$1,612,722**
Water Quality Monitoring	$854,825	$112,476	$97,697	$1,064,998
TOTAL MONITORING	**$1,348,376**	**$1,161,534**	**$167,810**	**$2,677,720**

Water Analysis (Profile I) (1)	**9**	**2**	**7**	**7**	**9**	**3**	**10**	$411.00	$6.51	$51,786	$820	$57,561	$460,291	$570,458	
														$0	
														$0	
														$0	
														$0	
														$0	
														$0	
														$0	
														$0	
														$0	
														$0	
														$0	
														$0	
														$0	
														$0	
										$96,174.00	$1,523.00	$106,899.00	$854,825.40		
												Subtotal Sampling Costs		**$1,059,421**	

Notes: Sampling labor cost = No. Samplers x Years x Events/year x Days/event x Hour/Day x Labor Rate
Sampling equipment costs include 1 pickup truck for every two samplers

Ground & Surface Water Monitoring

Pump Costs

Description	No. of units		Years		Cost $
Pump (purchased)	**9**	Replacement period (yrs):	**5**	2788.41	$5,577
				Subtotal Field Work	**$5,577**

Notes: Replacement period = frequency of pump replacement

Reporting

Description	Hrs/Event	Rate $/hr	Cost $
Field Geologist/Engineer			
		Subtotal Reporting	

Notes: **All sampling and reporting performed under APP permit**

Closure Cost Estimate
Constr. Mgmt

Project Name: Rosemont Copper World Conceptual Closure Plan - Reclamation Plan
Date of Submittal: July 20, 2022
File Name: Copy of ROSEMONT Copper World SRCE_APP_Revised July 28 2022.xlsm
Model Version: Version 1.4.1
Cost Data: User Data
Cost Data File: SRCE_Cost_data-USR_1_12.xlsm
Cost Estimate Type: Surety Cost Basis: Southern Nevada - Adjusted for Arizona

Construction Management & Road Maintenance - Cost Summary	Labor	Equipment	Materials	Totals
Construction Management	$572,506	$111,832	N/A	$684,338
Construction Support		$47,791		$47,791
Road Maintenance	$309,982	$665,614	$19,879	$995,475
TOTAL CONSTRUCTION MANAGEMENT	**$882,488**	**$825,237**	**$19,879**	**$1,727,604**

Construction Management

Construction Management Staff

Description	Duration mo.	Hours/ Month hr.	Number of Supervisors	Supervisor Rate $/hr	Labor Cost $	Equipment Cost(1) $	Totals $
Active Reclamation	12	160	2	$140.32	$538,829	$105,254	$644,083
Monitoring & Maintenance	60	4	1	$140.32	$33,677	$6,578	$40,255
				Total Staff	**$572,506**	**$111,832**	**$684,338**

Construction Management Support

Description	Duration mo.	Number of Units		Rental Rate $/mo	Generator Cost $/mo	Equipment Cost(1) $	Totals $
Temporary Office Rental	12	1		$198	$2,714	$34,939	$34,939
Temporary Toilets	60	1		$214		$12,852	$12,852
					Total Support	**$47,791**	**$47,791**

Notes: Office rental assumes only 1 generator required for every 4 trailers

Total Construction Management **$732,129**

Road Maintenance

Description	Fleet Size (select)	Number	Duration mo.	Hours/ Month hr.	Labor Cost $	Equipment Cost $	Totals $
Active Reclamation							
Water Truck	Large	1	12	160	$131,386	$256,051	$387,437
Grader	Large	1	12	160	$173,184	$400,838	$574,022
Monitoring & Maintenance							
Water Truck					$0	$0	$0
Grader	Medium	1	60	1	$5,412	$8,725	$14,137
Description	**Gallons/ Day**	**Days/ Month**	**Duration mo.**	**Cost/ Gallon $**			**Totals $**
Water Fees							
Water Fees	100000	22	12	0.00			$19,879
				Total Project Maintenance	**$309,982**	**$665,614**	**$995,475**

Notes: 1) Supervisor equipment = pickup truck
Final reclamation assumed completed in 12 months
Periodic (once per year) road maintenance for 5 years
Water cost assumes $3/AF supply well cost plus $243/AF pumping cost = $0.000753/gal

Appendix D: Process Fluid Cost Estimator Results

NEVADA STANDARDIZED
PROCESS FLUIDS COST ESTIMATOR
Heap Leach Pad and Tailings Storage Facility
INTERIM FLUID MANAGEMENT (IFM)
PROCESS FLUID STABILIZATION (PFS)
SUMMARY

2021 Cost

Note: Use of this bond cost calculator is not required, but operators using these spreadsheets may realize a quicker preparation time as well as a faster agency approval time due to the standardization of costs and methodologies.

Company Name:	Rosemont Copper Company
Project Name:	Copper World Project
Submittal Date:	
WPCP Number(s):	

	Labor	Equipment	Materials	Total
Interim Fluid Management	$994,054	$249,918	$394,153	$1,638,124
Process Fluid Stabilization				
Phase I	$789,552	$167,147	$77,947	$1,034,646
Phase II	$26,341,217	$5,820,437	$935,976	$33,097,631
Phase III	$74,410	$24,974	$1,102,644	$1,202,028
Total PFS (Phases I-III)	$27,205,179	$6,012,558	$2,116,567	$35,334,304
Evaporation	N/A	$10,617,713	$1,746,405	$12,364,118
Total PFS + Evaporation	$27,205,179	$16,630,271	$3,862,972	$47,698,423
Grand Total = IFM + PFS + Evaporation	**$28,199,233**	**$16,880,189**	**$4,257,125**	**$49,336,547**

USER INPUTS

Heap Leach Pad (HLP) and Tailings Storage Facility (TSF)
Interim Fluid Management (IFM)
Process Fluid Stabilization (PFS)

green cells are for User Inputs on this page
yellow cells are from Unit Costs sheet

Company Name:	Rosemont Copper Company
Project Name:	Copper World Project
Facility-1 Name	Heap Leach Facility
Facility-2 Name	Tailings Storage Facility 1
Facility-3 Name	Tailings Storage Facility 2
Facility-4 Name*	
Submittal Date:	
WPCP No.(s)	

* If more than four facilities, enter in separate Process Fluids Cost Estimator. Additional labor and support equipment may be required for larger sites having multiple facilities separated by considerable distances.

Recirculation
Pumping systems must be consistent with approved WPCP

Facility	Facility-1	Facility-2	Facility-3	Facility-4
Total volume recirculated (millions of gallons)	220	0	0	
Operational Pumping Rate (gpm)	2,500	1,100	550	
Static Head (feet) (1)	500	100	500	
Pressure Head (feet) (2)	525	125	525	
Friction Head (feet) (3)	125	25	125	0
Total Head (feet)	1,150	250	1,150	0

Pump Selection	Pump # 1	Pump # 2	Pump # 3	Pump # 4
Model Number	HH-225c	HH-150	HH-125c	HH-80c
B.E.P. Flow Rate @ given RPM (gpm) (4)	4,000	2,090	620	410
B.E.P. Head @ given RPM (feet)	260	260	340	320
RPM	1,900	2,000	2,200	2,200
Monthly Cycle (rental) Rate (24/7 operation)	$ 4,484	$ 3,364	$ 2,906	$ 1,566
Select # of pumps for each model for Facility-1 (5)	2	0	0	
Select # of pumps for each model for Facility-2	0	2	0	
Select # of pumps for each model for Facility-3	0	0	2	
Select # of pumps for each model for Facility-4				

Process Fluid Stabilization
Time-frames to be determined by HLDE or other acceptable method. Provide supporting documentation.

Facility	Facility-1	Facility-2	Facility-3	Facility-4	SITE
Phase I Duration (months) (6)	6	0	0		6
Phase II Duration (months) (7)	100	360	223		354
Phase III Duration (months)	1	1	1	1	1
ET Cell Conversion Cost*					
*Provide supporting documentation for estimated cost.	$500,000	$300,000	$300,000		

Active Evaporation

Facility	Facility-1	Facility-2	Facility-3	Facility-4	SITE
Total volume evaporated (millions of gallons) (8)	295.3	1875.0	223.0		2393.3
Static Head between pond and evaporator location (ft) (9)	500	100	500		
Number of 160 gpm Dual Pac evaporators used (10)	10	30	10		50
Average evaporation efficiency during months of operation	59%	59%	59%		

Sampling

Per approved Water Pollution Control Permit(s) (WPCP)	weekly	monthly	quarterly	semi-annually	annually
NDEP Profile I Water - # of samples analyzed:			12		
NDEP Profile II Water - # of samples analyzed:					

IFM Travel

Select nearest town with hotel (11)	Fallon	
	miles	hours
Road miles from Carson City to hotel	62	1.25
Road miles from hotel to site	50	1.25

Hazardous Waste Disposal
Enter total actual annual invoice(s) amount from last year. $0

Snow Removal
Is snow plowing in winter necessary to manage the facility? No

Site Map
Is map included showing facilities and monitoring locations? Yes

Final Plan for Permanent Closure (FPPC)
Is FPPC on file and acceptable to regulatory agencies? No
If answer is yes, include copy of the FPPC.
Is Project in Clark, Esmeralda, Lincoln, or Nye County? No

Phase I Site Supervision
Is Site Supervisor for reclamation present during Phase I? Yes
If answer is yes, include reference to page in document. Under MLRP and APP permits

USER INPUTS

Notes:

Recirculation pumps are rented (short time frame). Equipment for evaporation is purchased (longer time frame).

(1) Static head is the difference in elevation between pumps and discharge point
(2) Pressure head is the operating pressure necessary for irrigation system in place (emitters, impact sprinklers, wobblers, etc.).
For tailings storage facilities the pressure head may be zero.
(3) Friction head is estimated as 25% of Static Head. If this value is not used,
provide calculations for friction head loss (i.e. Hazen-Williams equation and length of pipe).
(4) B.E.P. = Best Efficiency Point for pump operation at given RPM.
(5) Use B.E.P. to select pump(s) required to handle operational pumping rate at total head required.
Add pumps in series to get required head and in parallel to get required flow. Do not have more than two pumps in series.
(6) Input number of months HLDE or other model shows recirculation is taking place.
Phase I duration for SITE will be selected from HLP or TSF with longest Phase I duration.
(7) Input number of months HLDE or other model shows active evaporation is taking place.
Only include the actual number of months that evaporators are running.
Phase II duration for SITE will be selected from longest HLP or TSF Phase I + Phase II duration less SITE Phase I duration.
(8) Include volume of supernatant pool if a tailings storage facility
(9) Evaporators must have a minimum 500 foot clearance of approved containment for overspray.
This may require evaporator placement on heap leach pad and additional pumping power to overcome elevation head.
Provide site-specific details for placement of evaporators.
(10) EcoMister Dual-Pac evaporators include 2, 40 hp motor evaporators and 1, 30 hp pump, dual unit pumps 160 gpm aloft.
(11) IFM travel mileage is from Carson City, Nevada to town with hotel nearest to site.